

REPORT AND
RECOMMENDATIONS
TO THE CONGRESS
MARCH 1, 1991

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PROSPECTIVE PAYMENT
ASSESSMENT COMMISSION

REPORT AND
RECOMMENDATIONS
TO THE CONGRESS
MARCH 1, 1991

PROSPECTIVE PAYMENT ASSESSMENT COMMISSION

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Prospective Payment Assessment Commission



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March 1, 1991

The Honorable Dan Quayle
President of the Senate
United States Senate
Washington, D.C. 20510

Dear Mr. President:

I am hereby transmitting to the Congress the annual report of the Prospective Payment Assessment Commission as required by Section 1886(e)(3) of the Social Security Act as amended by Public Law 101-508. This report presents the Prospective Payment Assessment Commission's framework for assessing potential refinements of Medicare payment policies. The report also contains 10 recommendations and addresses several additional concerns that reflect the Commission's collective judgment about issues of substantial importance to beneficiaries, hospitals, other providers, and the Medicare program.

Sincerely,

A handwritten signature in dark ink, which appears to read "Stuart H. Altman". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Stuart H. Altman, Ph.D.
Chairman

Enclosure

Prospective Payment Assessment Commission



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March 1, 1991

The Honorable Thomas Foley
Speaker
United States House of Representatives
Washington, D.C. 20515

Dear Mr. Speaker:

I am hereby transmitting to the Congress the annual report of the Prospective Payment Assessment Commission as required by Section 1886(e)(3) of the Social Security Act as amended by Public Law 101-508. This report presents the Prospective Payment Assessment Commission's framework for assessing potential refinements of Medicare payment policies. The report also contains 10 recommendations and addresses several additional concerns that reflect the Commission's collective judgment about issues of substantial importance to beneficiaries, hospitals, other providers, and the Medicare program.

Sincerely,

Stuart H. Altman, Ph.D.
Chairman

Enclosure

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Executive Summary

Executive Summary

In this report for fiscal year 1992, the Prospective Payment Assessment Commission (ProPAC) presents its framework for assessing potential refinements to Medicare payment policies. The Commission also presents 10 recommendations and addresses several additional concerns. This report reflects the analysis and collective judgment of ProPAC's Commissioners about issues of substantial importance to beneficiaries, hospitals, other providers, and the Medicare program. The report and recommendations are made directly to Congress, although the Secretary of the Department of Health and Human Services is required to respond to them.

ProPAC's responsibilities have expanded over time to include analyzing and developing prospective payment policies for all facility services furnished to Medicare beneficiaries. The Congress has also asked ProPAC to examine and report on broader issues regarding the effectiveness and quality of health care delivery in the United States. However, the Commission will continue to devote substantial effort to updating and improving policies for paying hospitals under the prospective payment system (PPS) and policies for paying hospitals excluded from PPS.

MEDICARE PROSPECTIVE PAYMENT: ASSESSING POTENTIAL REFINEMENTS

The first seven years of PPS have seen dramatic changes in the rate of increase in Medicare payments and in hospital performance. PPS uses prospectively determined rates based on average costs per case to create incentives for hospitals to control costs. An annual update is used to increase the rates and to provide some control over the level of Medicare payments. The components of PPS are intended to distribute these payments equitably. Over time, refinements to the structure of PPS have substantially affected the level and distribution of payments. However, some of these refinements and their interactions may also have altered the incentives of PPS.

ProPAC has been evaluating the factors that determine Medicare payments and their effects on

hospitals' financial condition since the beginning of PPS. Both Medicare inpatient hospital payments and total Medicare payments have grown at a slower rate under PPS than before. At the same time, growth in hospital costs has moderated, but not as much as expected.

Hospital costs continue to grow faster than Medicare payments. By fiscal year 1988, both PPS margins and total margins had declined to their lowest levels since PPS began. However, total margins remain comparable to what they were before PPS. Differences among hospitals in both PPS and total margins have widened, and many hospitals face greater financial risk than before PPS. If these trends continue, access to care and the quality of that care could be adversely affected for some Medicare beneficiaries. In addition, attempts to generate revenue from other sources may increase costs to private third-party payers, employers, and patients.

In a sense, the effects of PPS's incentives are now becoming evident. As more hospitals' PPS margins fall below zero, they will feel more pressure to change their behavior than they did when PPS payments exceeded costs. Conclusions about the effect of PPS on hospitals' financial behavior may be made more confidently when this information is available.

Changes have been made or are being considered in almost all of the major components of PPS. Some of these improvements have been attempts to fine-tune components of PPS that were part of the system from the beginning. Others have been intended to mitigate perceived inequities. Taken together, they have had a significant effect on the level and distribution of payments across hospitals.

PPS is a per-case payment system. It consists primarily of a base payment rate (the standardized payment amount) and several adjustments. An area wage index is used to reflect geographic differences in the cost of labor. Diagnosis-related groups (DRGs) are used to classify patients by diagnosis and procedure. Variations in the cost of care are measured by the DRG relative weights. Certain

hospital characteristics are also reflected in the payment system. The indirect medical education (IME) adjustment is intended to recognize additional costs faced by teaching hospitals in treating Medicare patients. The disproportionate share (DSH) adjustment is used to pay certain hospitals for the higher costs they face in treating a large proportion of poor patients and the indirect costs of operating in areas accessible to the poor. Finally, extra payments are made for outlier cases—patients with unusually long stays or high costs.

There are three standardized payment amounts: one each for hospitals in large urban areas (metropolitan areas with more than one million people), other urban areas, and rural areas. Congress has set updates so that the differential between the standardized amounts for hospitals in other urban areas and rural areas will be eliminated over time. This change will reduce the differential in payments to urban and rural hospitals. Urban hospitals, however, will continue to receive higher payments because of higher labor costs, the treatment of a more complex mix of cases, and other factors.

The area wage index—one of the most important determinants of the distribution of PPS payments—reflects geographic differences in labor costs. However, because the wage index includes differences in occupational mix, hospitals in high wage index areas may be overcompensated. ProPAC is thus recommending that the area wage index be modified to remove the effects of differences in the mix of occupations that hospitals employ. An occupational mix adjustment would likely redistribute payments from urban areas to rural areas. In addition, occupational mix is related to other components of the payment system, such as the IME adjustment. As a result, changes to the IME adjustment may be desirable if changes to the area wage index are made.

The patients treated by a hospital are classified into DRGs. The distribution of payments can be significantly affected by changes to the structure and definitions of the DRGs. Minor refinements to the DRGs have been made regularly, and major refinements have been made periodically. Additional refinements are being considered that may affect other PPS adjustments.

The case-mix index (CMI) measures the relative costliness of the mix of patients across DRGs. Increases in the CMI have a major effect on the level and distribution of PPS payments. The CMI may change over time because patients are more severely ill, medical practices change, or hospitals refine their medical documentation and coding practices. The first two reasons require more hospital resources for patient care; the third, called upcoding, does not. Although hospitals are paid for the full increase in the CMI regardless of the reason, some of this increase has been a result of upcoding that is not associated with higher costs. ProPAC has taken this into account in its update recommendation.

The IME and DSH adjustments have a major impact on the level and distribution of payments. Both of these adjustments are currently set at levels higher than differences in Medicare costs alone would support. The payments made for both adjustments are concentrated among relatively few hospitals. Further, there is considerable overlap between the hospitals that receive these adjustments. Although this raises concerns about PPS payment equity, these concerns are tempered by awareness of the important contributions these hospitals make and evidence about their financial condition. On the one hand, the hospitals that receive these payment adjustments tend to have higher PPS margins than hospitals that do not receive them. On the other hand, they also tend to have the lowest total margins. Maintaining payments from these adjustments at levels above Medicare costs alone reflects a judgment about the appropriate balance between two objectives: compensating only for Medicare-allowed costs and ensuring the financial stability of important groups of hospitals.

Outlier policy also affects the distribution of payments. Like the IME and DSH adjustments, outlier payments are concentrated among certain types of hospitals, including teaching hospitals. Because outliers are defined based on the DRGs, any major changes in the DRGs would have major effects on outlier payment policy.

The interaction and interdependence of the components of PPS directly affect the level and distribution of payments. This review of the structure

of PPS highlights how each of the components of the payment system affects the others. These interactions require that incremental changes in payment policy not be evaluated in isolation. The Commission believes that efforts to improve the system and address perceived inequities should be evaluated in the context of the system as a whole. The recommendations in this report should also be viewed in this broader context.

SUMMARY OF THE RECOMMENDATIONS

In Chapter 2, ProPAC presents 10 recommendations for updating and improving Medicare payment policies. The Commission also comments on other issues of importance to the Medicare program that may require action in the near future. ProPAC believes that its proposed changes are necessary for maintaining access to high-quality health care, encouraging hospital productivity and cost-effectiveness, and permitting the adoption of innovative and appropriate technological advances. The Commission developed its recommendations by setting priorities, analyzing information, and deliberating. ProPAC also responds to the concerns of the Congress, the Administration, health care providers, third-party payers, beneficiaries, and the public. The recommendations are offered to comply with the Commission's statutory mandate and to contribute to an informed and open debate about hospital payment policy and the Medicare program. For fiscal year 1992, the Commission focuses on eight broad areas:

- Updating PPS payments,
- Rural hospital payment,
- Teaching and disproportionate share hospital payment,
- Other adjustments to PPS,
- Capital payment,
- Updating and adjusting payments to PPS-excluded hospitals and distinct-part units,
- Hospital outpatient payment, and
- Uncompensated care.

Updating PPS Payments—The Commission recommends fiscal year 1992 updates of market basket minus 1.6 percentage points for hospitals in urban areas and market basket minus 0.6 percentage points for hospitals in rural areas. Based on current Health Care Financing Administration (HCFA) projections, the updates are 3.2 percent and 4.2 percent, respectively. The average update is market basket minus 1.4 percentage points, or 3.4 percent.

The update factor recommendation combines five components. First, the fiscal year 1992 HCFA market basket is forecasted to increase 4.8 percent. Second, 0.2 percentage points are added to better reflect the increases in hospital labor costs that are not adequately measured in HCFA's market basket. Third, an adjustment of -1.0 percentage points for errors in the fiscal year 1990 market basket forecast is made. Fourth, a 0.2 percentage point discretionary adjustment factor reflects the Commission's judgment that the costs of scientific and technological advancement can be partially funded by hospital productivity improvements. Fifth, a -1.0 percentage point adjustment for case-mix change offsets the estimated extra revenues hospitals received in fiscal year 1991 from case-mix index increases that were not due to treating sicker patients.

The Commission supports the phased elimination of the differential in the standardized amounts of hospitals in rural areas and other urban areas. Therefore, an additional 1.0 percentage points should be added to the update for rural hospitals.

The update is only one source of the increase in total PPS payments to hospitals. Change in the case-mix index, which is estimated to rise 2.3 percent during fiscal year 1992, will also increase payments. As a result, the average increase in per-case PPS payments, including CMI change and all of ProPAC's recommendations, is expected to be 5.7 percent in fiscal year 1992.

Finally, the Commission recommends that the Secretary collect medical records data so that case-mix index change can continue to be apportioned into its real and upcoding components.

Rural Hospital Payment—Since the implementation of PPS, many changes have been made in

Medicare policies to reflect the changing patterns of rural health care delivery. The Commission believes that although rural and urban hospitals have similar overall financial performance, some, but not all, rural hospitals continue to fare poorly under PPS. The performance of many rural hospitals will continue to improve as a result of recent payment policy changes directed at rural hospitals. However, increased payments have not often been targeted at specific problems or hospitals that need help. The Commission is especially concerned about the impact of declines in volume on small or isolated rural hospitals.

Ongoing analyses and congressionally requested studies will be the foundation for a report on payments to rural hospitals that the Commission will issue in mid-1991. Recommendations made in this report will suggest policy reforms tailored to specific problems faced by groups of rural hospitals.

Teaching and Disproportionate Share Hospital Payment—The Commission believes that the level of the indirect medical education adjustment should be reduced from 7.7 percent to 7.0 percent for every 10 percent increase in teaching intensity. The Commission further recommends that the savings from this reduction be returned to the standardized amounts for urban and rural hospitals.

Two factors were balanced when this recommendation was made: a recognition that Medicare is more than adequately compensating teaching hospitals for differences in Medicare costs, and a serious concern for the continued financial stability of major teaching hospitals. Future recommendations on the IME adjustment will also consider these factors.

ProPAC also believes that it is important to examine the IME and disproportionate share adjustments to find better ways to target these payments to achieve their objectives. ProPAC will continue to address the interaction between the DSH and IME adjustments.

Other Adjustments to PPS—The Commission continues to be concerned that the area wage index overcompensates some hospitals and undercompensates others. The area wage index should be adjusted to remove the effects of differences in the

mix of occupations hospitals employ. This adjustment should be based on data to be collected by the Secretary.

In addition, a one-time adjustment to the DRG recalibration process is necessary to prevent continued underpayments caused by coding and assignment changes for patients with acute myocardial infarction.

Capital Payment—Current law requires the Secretary to implement a prospective payment system for capital beginning in fiscal year 1992. ProPAC has been considering many aspects of this complex issue and has put aside its previous recommendations. The Commission has not made a recommendation in this report. Instead, ProPAC will evaluate and comment on the Secretary's proposal when it is available, and will then recommend changes or an alternative approach, if warranted.

Updating and Adjusting Payments to PPS-Excluded Hospitals and Distinct-Part Units—The Commission recommends an average update of market basket minus 0.7 percentage points. Based on current HCFA projections, the recommended update is 4.2 percent. This update is determined by the 4.9 percent projected increase in the HCFA market basket, a 0.2 percentage point increase to better reflect increases in hospital labor costs, a -1.0 percentage point forecast error correction factor for fiscal year 1990, and a 0.1 percentage point scientific and technological advancement allowance. No specific adjustment is made for savings from productivity improvements because the Medicare program already shares in these savings under the TEFRA payment system used for these providers.

ProPAC also recommends that higher updates be given to PPS-excluded providers that entered the program before fiscal year 1989. The updates should depend on the base year used to calculate each provider's target rate. The amount of the updates should reflect differences between the actual updates these providers received in each year and the actual market basket for those years.

Hospital Outpatient Payment—As required by Congress, the Commission issued a report on outpatient payment reform in July 1990. That report

provided background on hospital outpatient services and discussed the factors the Commission will consider in evaluating future payment reforms. Another report, due in March 1992, will present specific recommendations.

Four recommendations are being made in this report as a result of the Commission's ongoing activities. First, the Commission believes that prospective payment for outpatient facility services should be implemented. Initially, these reforms will focus on hospitals, but ultimately they should address both hospital and non-hospital providers. Second, payment reforms should be consistent with physician payment reform and should not inappropriately favor one site of care over another. The same payment method should be used for all providers, although payment rates should be adjusted to reflect justifiable cost differences. Third, a method for periodically collecting cost data from non-hospital providers is recommended. This method should not, and need not, be unnecessarily burdensome. Further, uniform coding and billing requirements should be required of all providers of outpatient care. Fourth, outpatient services furnished by hospitals should be incorporated in the Medicare physician Volume Performance Standards (VPSs) if they are included in the VPSs when furnished by non-hospital providers.

Uncompensated Care—The Commission believes that Congress should develop solutions to the problem of the uninsured. The Commission also recognizes that hospitals face a growing financial burden because many Americans lack adequate health insurance.

Recent work on uncompensated care by ProPAC indicates that during the 1980s, uncompensated care costs rose faster than inflation, while increases in government subsidies for these costs have not kept pace. In addition, the burden of these costs is becoming less concentrated in the types of hospitals that historically have provided a large share of uncompensated care. Uncompensated care costs as a proportion of total costs are as high for rural hospitals as for urban hospitals, after accounting for state and local government subsidies. Finally, it appears there is a poor relationship between uncompensated care costs and the distribution of IME and DSH payments. ProPAC intends to continue its analysis of the impact of payments

from Medicare, Medicaid, and other payers and of uncompensated care cost on hospitals' financial condition.

Four appendixes provide additional information. Appendix A includes background material and analysis. Appendix B lists ProPAC's technical reports, which include more detailed descriptions of intramural and extramural analyses that support the Commission's recommendations. Appendix C highlights the background of each Commissioner and describes ProPAC's operations. Appendix D reports changes in DRG relative weights from fiscal year 1990 to fiscal year 1991.

RECOMMENDATIONS FOR FISCAL YEAR 1992

Updating PPS Payments

Recommendation 1: Amount of the Update Factor for PPS Hospitals

For fiscal year 1992, the PPS standardized payment amounts should be updated to account for the following factors:

- The projected increase in the HCFA PPS market basket, currently estimated at 4.8 percent;
- An adjustment of 0.2 percentage points, to reflect the difference between the ProPAC and HCFA market baskets;
- A correction for substantial error in the fiscal year 1990 market basket forecast, currently estimated at -1.0 percentage points;
- A discretionary adjustment factor of 0.2 percentage points; and
- A net -1.0 percentage point adjustment for case-mix change.

Further, an additional positive adjustment of 1.0 percentage points for rural hospitals should be made to reflect the second year of phasing out the differential in the standardized amounts between rural and other urban hospitals. Through differential updates, the rural standardized amount should be increased until it equals the other urban standardized amount in fiscal year 1995.

Recommendation 2: Data for Evaluating Case-Mix Index Change

The Secretary should collect the data necessary to apportion case-mix index change into its real and upcoding components.

Rural Hospital Payment

Since the implementation of PPS, numerous changes have been made in Medicare policies to reflect the changing pattern of rural health care delivery. While rural and urban hospitals currently exhibit similar overall financial performance, some rural hospitals continue to fare poorly under PPS. Several improvements in PPS policies have been enacted recently, and it is too soon to evaluate their effects. Other changes, such as eliminating the differential in the standardized amounts, are being phased in. Current PPS policies may not be appropriate for some rural hospitals, and the Commission is continuing its analyses of specific problems these hospitals face. A congressionally requested report, to be issued in mid-1991, will contain additional findings and recommendations. These recommendations will suggest policy reforms more tailored to the specific problems faced by some rural hospitals.

Teaching and Disproportionate Share Hospital Payment

Recommendation 3: The Indirect Medical Education Adjustment

The Commission recommends that the indirect medical education adjustment to PPS payments be reduced from its current level of 7.7 percent to 7.0 percent for fiscal year 1992. This reduction should be implemented in a budget-neutral fashion, with the anticipated decrease in indirect medical education payments returned to all hospitals through corresponding increases in the standardized payment amounts.

The Disproportionate Share Adjustment

The Commission believes it is important to examine the structure of the disproportionate share adjustment and the interaction between this adjustment and other elements of the health care financing system, both within and beyond the Medicare program. This examination will focus on developing changes that will better target the payments

made under the disproportionate share adjustment to achieve its policy objectives.

Other Adjustments to PPS

Recommendation 4: Improving the Area Wage Index

The Secretary should collect data on employee compensation and paid hours of employment for hospital workers by occupational category. Once these data become available, the Secretary should implement an adjustment in the area wage index. This adjustment would correct for the inappropriate inclusion in the wage index of geographic differences in the mix of occupations employed.

Recommendation 5: Adjusting Payments for Acute Myocardial Infarction Cases

A one-time adjustment should be made in the DRG recalibration process used in calculating revised DRG weights for fiscal year 1992. The adjustment would be designed to prevent continuation of errors in payment caused by changes in coding and DRG assignments for patients with a diagnosis of myocardial infarction.

Capital Payment

The Commission believes that Medicare capital payment policy should recognize hospitals' prior capital expenditures and related financing costs, while encouraging appropriate and efficient investments. Further, the policy should be designed to limit increases in aggregate program expenditures for inpatient hospital care. ProPAC will evaluate and comment on the forthcoming capital payment proposal from the Secretary of Health and Human Services. It will recommend modifications to the proposal, as appropriate, or an alternative payment approach, if warranted.

Updating and Adjusting Payments to PPS-Excluded Hospitals and Distinct-Part Units

Recommendation 6: Amount of the Update Factor for PPS-Excluded Hospitals and Distinct-Part Units

For fiscal year 1992, the target rate of increase for PPS-excluded hospitals and distinct-part units should be updated to account for the following factors:

- The projected increase in the HCFA PPS-excluded market basket, currently estimated at 4.9 percent;
- An adjustment to the market basket of 0.2 percentage points, to reflect the difference between the ProPAC and HCFA market baskets;
- A correction for substantial error in the fiscal year 1990 market basket forecast, currently estimated at -1.0 percentage points; and
- An allowance for scientific and technological advancement of 0.1 percentage points.

In addition, a positive allowance should be given to TEFRA providers that entered the program before fiscal year 1989, depending on the base year used to calculate their target rates. This allowance reflects the difference between the actual updates given in earlier years and the market basket for that year.

Hospital Outpatient Payment

Recommendation 7: Outpatient Payment Reform

The Commission believes that a prospective payment system for outpatient services should be developed. Outpatient facility payment reform should ultimately include all providers of outpatient services (such as hospitals, physicians' offices, and free-standing ambulatory surgery centers). As required by Congress, however, the Commission recognizes that outpatient payment reform will focus initially on the hospital outpatient setting.

Recommendation 8: Outpatient Facility and Physician Payment Reform

Outpatient payment reform for facility services should have incentives that are consistent with physician payment reform. Medicare financial incentives should not lead physicians or beneficiaries to inappropriately select one site of care over another.

Recommendation 9: Data Collection and Coding Requirements

Uniform coding and billing requirements should be implemented for all providers of outpatient care. These requirements should apply to the hospital outpatient setting, physicians' offices, and free-standing ambulatory care providers. In addition, a mechanism for periodic collection of procedure-specific cost data in free-standing settings (including physicians' offices and ambulatory surgery centers) should be implemented.

Recommendation 10: Medicare Volume Performance Standards

Services provided in the hospital outpatient setting should be included in the Medicare physician Volume Performance Standards (VPSs). Certain services (such as laboratory tests and therapy services) are currently included in the VPSs when provided in free-standing settings. Other services (including ambulatory surgery and durable medical equipment) are excluded. The Commission believes that hospital-provided services should also be incorporated in the VPSs to the extent that these services are included when provided in other settings.

Uncompensated Care

Many Americans lack health insurance or other means to cover the cost of medical care furnished by hospitals, physicians and other providers. ProPAC is concerned about the effects of this problem, including the increasing financial burden faced by hospitals that treat the uninsured. The amount of uncompensated care hospitals provide has increased during the 1980s, and the number and variety of hospitals affected significantly by the cost of unpaid care have grown. The Commission believes that Congress should continue to consider methods to reduce the size of the uninsured population. Congress should also consider methods to assist hospitals directly with the uncompensated care problem.

Chapter 1

Medicare Prospective Payment: Assessing Potential Refinements

Medicare Prospective Payment: Assessing Potential Refinements

Medicare's prospective payment system (PPS) is in its eighth year. When it was implemented in 1983, PPS represented a dramatic change in the way that hospitals were paid under Medicare. Rather than reimbursing each hospital for actual costs incurred, as was the case during Medicare's first 16 years, a prospectively set payment is now made for a specified product—the hospital discharge. This change was intended to provide incentives for hospitals to operate more efficiently, thereby controlling the cost of treating their patients and reducing the growth rate of Medicare expenditures.

PPS has had a major effect on hospital payments in two ways. First, because the level of per-case payments is set through the annual process of updating the payment rates, Medicare has a degree of control over total Medicare inpatient hospital spending. Second, the payment to each hospital for each case is based on the average cost of treating that type of case at that type of hospital, rather than each hospital's actual costs. This significantly affects the distribution of Medicare payments across hospitals and geographic areas.

Since the beginning of PPS, the Prospective Payment Assessment Commission (ProPAC) has examined and evaluated factors that determine Medicare payment. Each year, the Commission recommends updates to the PPS rates, as well as changes in policies that affect the distribution of payments. The annual update recommendation is intended to recognize the impact on hospitals' costs of factors that are beyond their control, while maintaining financial incentives for productivity growth in the industry. Other policy recommendations are designed to improve payment equity by adjusting for external factors that contribute to variations in costs among hospitals.

In its March 1990 report, the Commission described the overall design of PPS, its goals, and the

incentives that it provides. In this year's report, evidence is presented of the changes in Medicare spending and hospital costs that coincided with the implementation of PPS. The impact of recent PPS policy changes on the distribution of hospital payments and financial status is also examined. These effects are then related to the structure of the payment system, highlighting some recent refinements and others that are under consideration. The focus is on the effects of potential changes in PPS payment policy and how they may interact.

The discussion in this chapter provides a context for consideration of the Commission's recommendations on changes to PPS for fiscal year 1992. It is important to recognize the interactions between the various components of the payment system, both in assessing the impact of PPS and in evaluating changes that may be proposed in the near future. This approach also applies to the evaluation of options for prospective payment in other institutional settings, as the Commission proceeds to address a broader mandate.

IMPACT ON MEDICARE SPENDING AND HOSPITAL COSTS

The growth of aggregate Medicare inpatient hospital payments slowed dramatically with the implementation of PPS. When PPS began, the rate of increase in Medicare inpatient payments had been in double-digits for 10 consecutive years. During the six years before prospective payment, these payments grew at an annual rate of 17 percent (see Table 1-1). Over the first six years of PPS, the annual growth rate fell to 6.1 percent.

Total Medicare payments also increased more slowly than before, despite the continued rapid growth of other Medicare Part A payments and Medicare Part B payments.¹ In the six years prior to PPS implementation, total Medicare payments increased at an annual rate of 17.8 percent. For the

Table 1-1. Estimated Benefit Payments, by Type of Service

Fiscal Year	Part A				Part B Total ^b		Total Medicare	
	Inpatient Hospital		Other Services ^a		Payments (In Billions)	Percent Change	Payments (In Billions)	Percent Change
	Payments (In Billions)	Percent Change	Payments (In Billions)	Percent Change				
1977	\$14,429	--	\$ 746	--	\$ 6,133	--	\$21,308	--
1978	16,719	15.9%	830	11.3%	7,254	18.3%	24,803	16.4%
1979	19,176	14.7	956	15.2	8,613	18.7	28,745	15.9
1980	23,129	20.6	1,139	19.1	10,467	21.5	34,735	20.8
1981	27,706	19.8	1,434	25.9	12,555	19.9	41,695	20.0
1982	32,554	17.5	1,970	37.4	14,809	18.0	49,333	18.3
1983	36,950	13.5	2,422	22.9	17,670	19.3	57,042	15.6
1984	40,385	9.3	2,788	15.1	19,882	12.5	63,055	10.5
1985	43,618	8.0	3,027	8.6	21,985	10.6	68,630	8.8
1986	45,280	3.8	3,166	4.6	25,499	16.0	73,945	7.7
1987	46,579	2.9	3,300	4.2	29,693	16.4	79,572	7.6
1988	49,570	6.4	3,789	14.8	33,725	13.6	87,084	9.4
1989	52,642	6.2	6,217 ^c	64.1 ^c	37,745	11.9	96,604	10.9
Annual rate of change:								
1977-1983		17.0		21.7		19.3		17.8
1983-1989		6.1		17.0		13.5		9.2

Note: Payments reported in this table are incurred expenditures, rather than outlays.

^a Includes skilled nursing, home health, end-stage renal disease, and hospice benefits.

^b Includes outpatient hospital, physician, independent lab, and other benefits.

^c Part A other services payments for fiscal year 1989 include payments for services added by the Medicare Catastrophic Coverage Act of 1988.

SOURCE: Health Care Financing Administration, Office of the Actuary.

first six years after PPS took effect, this rate dropped to 9.2 percent.

The rate of increase in overall hospital costs per case also slowed temporarily with the implementation of PPS. In 1983, total expense per adjusted admission at community hospitals rose by 10.2 percent.² For the tenth consecutive year, hospital costs had grown at double-digit rates. In 1984, the increase in expenses per adjusted admission fell to 7.5 percent. This rate has subsequently stayed at around 10 percent. The general rate of inflation, however, is lower than it was immediately prior to PPS. As a result, hospital costs have continued to increase faster than the prices of the resources hospitals use in providing inpatient care.

Health policy makers continue to be concerned about the rate of increase in hospital costs. With costs rising faster than Medicare payments, deterioration in hospital financial status may threaten Medicare enrollees' access to inpatient care and the quality of that care. In addition, the resulting

pressure on hospitals to produce more revenue from other sources may have adverse consequences for other third-party payers and their enrollees.

CHANGES IN PPS

The structure of PPS was intended to incorporate incentives for hospitals to increase efficiency while maintaining access and quality of care. Although much of the basic structure of PPS has been retained, a number of changes have been made since the system was implemented. These changes have substantially affected the level and distribution of payments. While they generally have been intended to mitigate perceived inequities in the existing structure of PPS, some of these changes have also altered the incentives that were provided by the system as it originally was designed.

PPS Payment Policy Changes

In its June 1990 report, *Medicare Prospective Payment and the American Health Care System*,

Table 1-2. Effects of PPS Payment Policy Changes on Per-Case PPS Payment Rates, 1984-1990

Hospital Group	Effect of Payment Policy Changes	Effect of Case-Mix Index Increases*	Total Effect
All hospitals	18.3%	19.7%	41.6%
Urban	16.5	20.3	40.1
Rural	29.2	15.1	48.6
Major teaching	17.1	20.4	41.0
Other teaching	14.4	20.2	37.5
Non-teaching	21.6	18.2	43.8
Disproportionate share:			
Large urban	15.8	19.2	38.0
Other urban	23.9	21.1	50.0
Rural	36.1	15.5	57.2
Non-disproportionate share	16.8	19.2	39.2

Note: Figures are not actual changes in PPS payments. They are meant to isolate the effects of changes in PPS payment policy on PPS payment rates, holding all other factors constant. Hospitals in Maryland and New Jersey are excluded; hospitals in New York and Massachusetts are included beginning in fiscal year 1986.

* The effect of case mix change in 1990 for each hospital group is based on the overall estimated change for that year.

SOURCE: ProPAC estimates based on ProPAC PPS payment model and annual MedPAR data from the Health Care Financing Administration.

ProPAC examined the cumulative effects of the payment policy changes adopted from the inception of PPS through fiscal year 1990.³ These changes include reductions in the indirect medical education (IME) adjustment for teaching hospitals. In fiscal year 1986, an adjustment was added for hospitals that treat a disproportionate share of indigent patients, and the size of this disproportionate share (DSH) adjustment has since been increased considerably.

Beginning in fiscal year 1988, payment amounts for hospitals in large urban areas, other urban areas, and rural areas have been updated at different rates.⁴ Changes have also been made in the PPS wage index; the patient categories (diagnosis-related groups, or DRGs) used to group cases for payment purposes; and the method of calculating the DRG relative weights. The rules for paying hospitals for cases with exceptionally long stays or high costs (outlier cases) have also been changed, as has the method of financing outlier payments.⁵

The PPS update factor and other payment policy changes made between fiscal years 1984 and 1990 increased per-case PPS payment rates by a cumulative 18.3 percent (see Table 1-2). This number reflects only the effects of payment policy changes.

It does not reflect other changes that may affect the level of payments, including changes in the mix of patients across DRGs (see the discussion of this issue below).

Policy changes have had a considerable effect on the distribution of PPS payment rates. Rural hospitals have benefited from these changes, with a cumulative increase in their payment rates of 29.2 percent—almost twice that for urban hospitals. Because of a substantial decrease in the IME adjustment, policy changes have not increased payment rates for teaching hospitals as much as for non-teaching hospitals. Disproportionate share hospitals in other urban and rural areas have experienced large increases in their payment rates, primarily due to changes in the DSH adjustment enacted in the Omnibus Budget Reconciliation Act (OBRA) of 1989.

The Commission has also noted that, despite the intensity of the debate over the PPS update factor and other payment policy changes, the most important influence on the overall level of PPS payments has been the increase in the Medicare case-mix index (CMI). The CMI measures the mix of cases across DRGs. Any increase in the CMI results in an equal percentage increase in PPS payments.

ProPAC’s estimate of the cumulative change in the CMI between fiscal years 1984 and 1990 is 19.7 percent.⁶ This indicates that CMI changes have increased PPS payments by more than the PPS rate updates and other PPS policy changes combined. However, because payment increases due to CMI change have been considered in determining the annual PPS update factors, there is some relationship between the two effects.

Changes in the CMI have also affected the distribution of PPS payments, in some instances offsetting the intended effects of policy decisions. For example, CMI change has mitigated the effectiveness of payment rule changes aimed at narrowing the gap between payments to urban and rural hospitals.

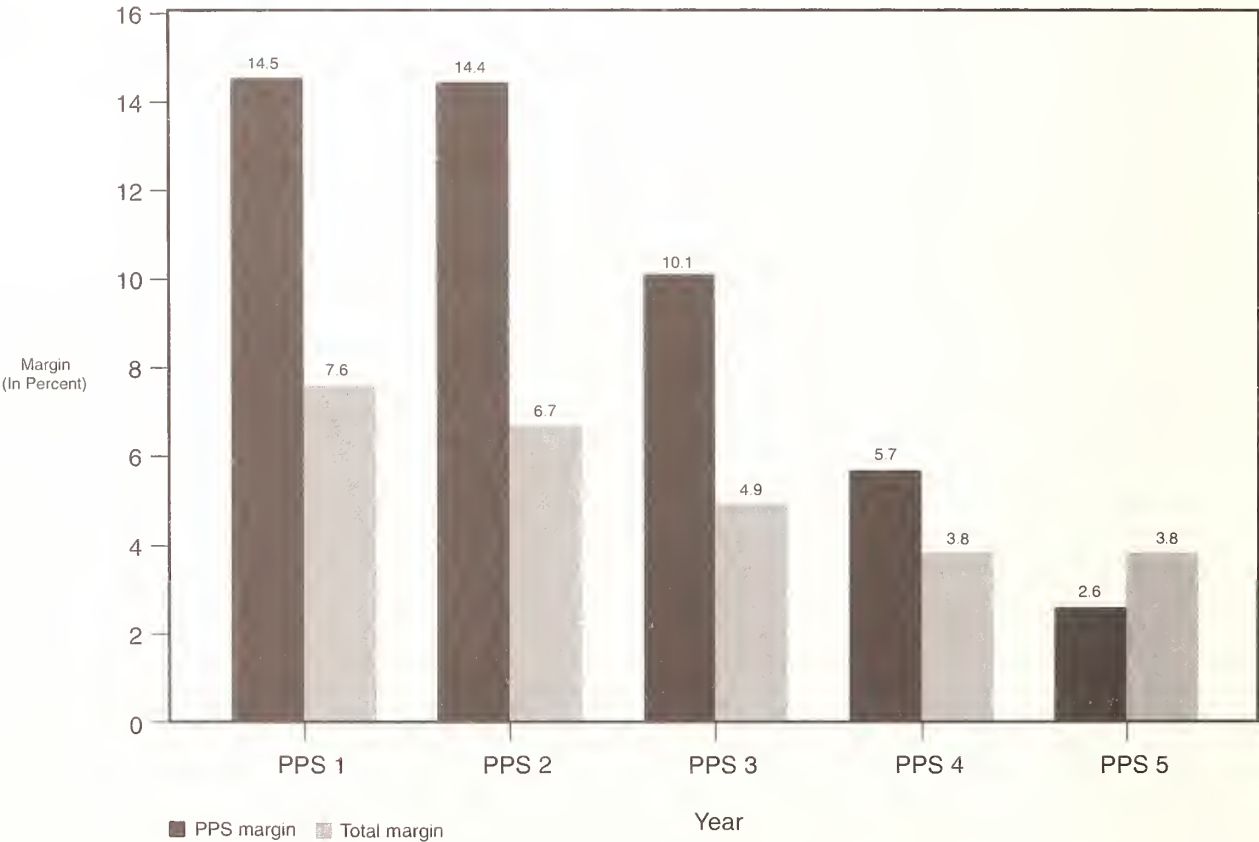
Hospital Financial Status

The PPS margin compares the PPS payments (exclusive of passthroughs) that hospitals receive

with their Medicare operating costs. The aggregate PPS margin for all hospitals exceeded 14 percent in each of the first two years of PPS (see Figure 1-1). This reflects the large increases in PPS payments per discharge in those years while, at least in the first year, hospitals were generally successful in holding down the increase in operating costs. Since the first two years, however, the continued growth in costs, combined with much smaller increases in payments, has resulted in a sharp decline in PPS margins. By the fifth year, the aggregate PPS margin was 2.6 percent. For the seventh year, ProPAC has estimated an aggregate PPS margin of –2.5 percent.

As the overall level of PPS margins falls, the distribution of these margins becomes increasingly important. In the first year, for instance, when PPS margins were generally high, there was less concern about hospitals with relatively low PPS margins. There were few hospitals for which PPS

Figure 1-1. PPS and Total Margins in the First Five Years of PPS



SOURCE: Medicare Cost Report data from the Health Care Financing Administration.

payments did not cover operating costs. By the fifth year, however, a majority of hospitals had negative PPS margins. By the seventh year, a PPS margin only slightly below average may have meant serious financial difficulty for the hospital.

The total margin is a primary indicator of the hospital's overall financial status. It compares hospital revenues and expenses for all inpatient and outpatient care and for non-patient care activities. Patient care includes not only the treatment of Medicare and Medicaid patients, but also the treatment of patients covered by private insurance and those who are uninsured. Non-patient care includes all other hospital activities, such as gift shops and parking lots.

As was the case for the PPS margin, the aggregate total margin for all hospitals declined over the first five years of PPS. This decrease, however, was not nearly as steep as that in the PPS margin. The total margin, which was 7.6 percent in the first PPS year, had fallen to 3.8 percent by the fifth year—a decrease of 50 percent. However, the decline in the PPS margin over the same period was 82 percent. In the fifth year, the total margin exceeded the PPS margin for the first time since PPS began.

More recent data from the American Hospital Association (AHA) indicate that the decline in total margins has leveled off. Total margins remain comparable to what they were immediately before PPS. According to the AHA's National Hospital Panel Survey, the average total margin for 1989 was 5.0 percent. This compares with 4.8 percent in 1988, 5.1 percent in 1983, and 4.6 percent in 1980.⁷

In fact, the total margin is currently considerably higher than it was at any time during the 1970s. However, as with PPS margins, the dispersion between the highest and lowest total margins has become wider over time, indicating that hospitals may face greater financial risk now than they did before PPS.

The much steeper decline in PPS margins than in total margins over the first five years of PPS indicates that other sources of revenue have been more stable than Medicare over this period. However, the relatively low recent annual updates in the PPS payment rates have reflected, in part, the

response of policy makers to the initially very high PPS margins.

In a sense, the effects of PPS payment policy are just now becoming evident. Several studies have found that hospitals that face more financial pressure under PPS have experienced slower growth in operating costs.⁸ If these findings can be applied to the current situation, there may be increasing evidence of hospitals' responses to PPS incentives as more PPS margins fall below zero. On the other hand, hospitals with high total margins may be able to avoid the pressure to constrain costs. In any event, conclusions about the effectiveness of PPS incentives may be premature until more data on hospitals' current behavior become available.

COMPONENTS OF PPS PAYMENT

The structure of PPS determines the distribution of payments. It thus is key to analyzing the incentives that the system provides and the behavioral effects produced by these incentives. Therefore, the components of PPS should be reviewed regularly to identify any changes that may be necessary to meet the system's objectives.

PPS consists primarily of a base payment rate (the standardized payment amount) and a number of adjustments. These adjustments are generally intended to account for factors that affect the cost of treating Medicare patients but are regarded as being beyond the control of the individual hospital.

As discussed above, a number of changes have been made in the way that payments are made under PPS. These changes involve modifications or additions to one or more of the components of the payment system. A number of additional changes have been or are being considered that would further modify the structure of PPS. The following discussion reviews the current structure of PPS and describes some potential changes to the system. This discussion is intended to highlight the interdependence of the system's components and demonstrate the need to take a broad view in evaluating potential changes.

Standardized Payment Amounts

The standardized payment amounts are the base payment rates for hospitals under PPS. Initially, they were based on the historical average costs of

treating Medicare patients at hospitals located in urban and rural areas, respectively. There currently are three separate standardized payment amounts.

Payments for each hospital are adjusted for relative hourly labor costs in the hospital's area, the hospital's case mix, and its teaching and disproportionate share status. Hospital-specific average costs in the base year are, therefore, standardized for these factors. The standardization process thus indicates the average urban or rural cost of treating an average Medicare patient at a non-teaching, non-disproportionate share hospital in an area with average wages and cost of living. The resulting standardized payment amounts are then reduced to reflect anticipated outlier payments for urban or rural hospitals.

Each year, the standardized payment amounts are updated to reflect increases in the cost of providing inpatient care to Medicare patients, as well as other considerations. From fiscal years 1988 through 1990, hospitals in large urban, other urban, and rural areas received different updates. This has resulted in three separate standardized payment amounts, as mentioned above.

In OBRA 1989, Congress required the Secretary of Health and Human Services (HHS) to develop a legislative proposal for the implementation of a single base payment rate under PPS. The Commission, in its March 1990 report, recommended that the differential between the standardized payment amounts for rural hospitals and hospitals in other urban areas be eliminated over time. In OBRA 1990, Congress set the PPS updates so that the differential between the rural and other urban standardized payment amounts would be eliminated by fiscal year 1995.

This change will significantly affect the distribution of PPS payments. In fiscal year 1990, the standardized payment amount for rural hospitals was 7 percent lower than for other urban hospitals. The difference in average PPS payments per discharge, however, was much greater than that, due to the effect of other PPS payment factors. Among these factors are the CMI, the wage index, and the IME and DSH adjustments, which are all greater for urban than for rural hospitals.

The elimination of the differential in the standardized payment amounts raises the issue of

whether the PPS adjustments should also be modified. Additional adjustment may be required to adequately reflect differences in Medicare costs that are currently captured by the differentials between the standardized payment amounts for large urban, other urban, and rural hospitals.

Input Prices

Hospitals in different geographic areas may face different prices for labor, other services, and supplies that they use in providing inpatient care. PPS thus includes some adjustments for differences in input prices. Each hospital's base payment rate is adjusted for the relative hourly cost of labor in its market area. In addition, an adjustment is made for hospitals in Alaska and Hawaii to reflect the high cost of living in those areas.

Wage Index—The wage index has a considerable effect on the distribution of PPS payments. Every 10 percent difference in the wage index in a given area results in a payment difference of 7.14 percent for hospitals in that area. The fiscal year 1991 wage index ranges from 0.3961 for Arecibo, Puerto Rico, to 1.4677 for San Jose, California—a difference of almost 300 percent.

The large effect of the wage index on the distribution of PPS payments makes it extremely important that the index accurately reflect current labor market conditions faced by hospitals. As of January 1, 1991, the PPS wage index is based on data collected by the Health Care Financing Administration (HCFA) on hospital hourly labor compensation for 1988. Previously, the wage index was based on 1984 data collected by HCFA.⁹ The change from 1984 to 1988 data resulted in major differences in the wage index for some areas. In OBRA 1987, Congress required HCFA to update the wage index for 1991 and at least every three years thereafter. In its March 1989 report, the Commission recommended that the wage index be updated at least every other year.

In its March 1990 report, the Commission recommended that HCFA begin to collect data that would allow analysis of the adjustment of the area wage index for differences in occupational mix. This type of adjustment would reduce payments to hospitals in areas where apparently high labor costs are actually due to the use of more expensive types of labor.

The use of more expensive types of labor does not reflect higher input prices, but rather the staffing decisions made by hospitals in each area. Consequently, hospitals in some areas are paid for decisions that are primarily affected by local practice patterns, which PPS payment is not intended to reflect.

Due to a lack of nationwide data on occupational mix differences across areas, definitive findings on the effects of an occupational mix adjustment are not available. However, ProPAC has conducted analyses of this issue, using both a national sample of hospital wage data, and hospital-specific data from California to estimate the effects on hospitals in that state. This provided the basis for the Commission's recommendation on this issue in Chapter 2, and will be described in more detail in a technical report to be released this spring.

The correlation of occupational mix with other payment factors (such as case mix and teaching status) means that implementation of an occupational mix adjustment could affect the appropriate levels of these other factors. Teaching hospitals, for example, tend to employ a more skilled mix of labor. An occupational mix adjustment would presumably reduce payments to all hospitals in areas with high concentrations of teaching hospitals. The IME adjustment could then be used to account for the higher labor costs of teaching hospitals, which is now reflected in the wage index. The advantage of this approach is that payments could then be targeted to the teaching hospitals that require a more expensive mix of labor, rather than to all hospitals in the area.

Non-Labor Index—Currently, the only adjustment for hospital input prices other than wages is a cost-of-living adjustment for hospitals in Alaska and Hawaii. This adjustment applies only to a few hospitals, and is not designed to reflect any variation in non-labor input prices across the country.

ProPAC examined the issue of adjusting PPS payments for differences in the prices of non-labor inputs in a study conducted in 1989. That study found that the information available at the time was inadequate to determine whether such an adjustment was needed, although there were no indications of substantial variation. In its report to Congress on this issue, the Commission concluded

that, given the lack of appropriate data, the development of such an index was infeasible for the time being.¹⁰

Case Mix

The cost of inpatient care varies due to differences in the patient's diagnosis, the type of treatment provided, and the complexity and severity of the patient's illness. One of the key considerations in developing PPS was the ability to adjust payment for differences in the mix of cases treated by the hospital. The base payment rate, adjusted by the wage index and the cost-of-living adjustment, is multiplied by the DRG relative weight for each Medicare case. The relative weight reflects the expected costliness of treating cases in the DRG to which each patient is assigned.

As described above, the increase in the CMI—which is the average relative weight for all PPS discharges—has been the largest single factor in determining the rate of increase in PPS payments over time. The CMI also accounts for much of the difference in payments between hospital groups. For instance, the aggregate CMI for urban hospitals in fiscal year 1988 was 1.329, compared with 1.140 for rural hospitals. The difference in the CMI thus accounted for a 14.2 percent difference in payments—more than the difference between the urban and rural standardized payment amounts in that year.

The effect of case mix on PPS payments is determined by three factors: the definitions of the DRGs, coding practices and their influence on the assignment of cases among DRGs, and the calculation of the DRG weights.

DRG Definitions—In its March 1990 report, the Commission urged HCFA to continue its work on the development and assessment of improvements in the measurement of hospital case mix and resource use. Both HCFA and ProPAC have been analyzing potential refinements to the current DRGs. These efforts have resulted in the addition of several new DRGs in fiscal year 1991. Further refinements to the DRGs, such as the incorporation of more of the revisions developed by Yale University in a HCFA-funded project, are being evaluated.

As improvements are made in the grouping of patients for payment, the appropriate levels of

many of the adjustments now applied under PPS are likely to change. The IME adjustment, for instance, is partially based on the assumption that teaching hospitals treat more severely ill patients within any DRG than do other hospitals. Improvements in the ability to measure severity may reduce the extent to which such differences require separate compensation.

The definition, incidence, and the appropriate method of payment for outlier cases are also likely to be affected by DRG refinement. If cases are grouped more appropriately according to illness and resource intensity, fewer cases may be exceptional relative to the group to which they are assigned. In any event, a major refinement of the DRGs is likely to require a reexamination of the outlier payment policy.

Coding Practices—The CMI may change over time for several reasons. Patients admitted for inpatient care may be more severely ill, on average, as less severely ill patients are more commonly treated in other settings. Inpatient treatment protocols may become more complex, as physicians and hospitals respond to technological change and improvements in clinical knowledge. In addition, hospitals may refine their medical record documentation and coding practices. The first two of these reasons are related to patient resource requirements; their combined effect is commonly referred to as real CMI change. The third, however, is not related to the costliness of treatment; it is commonly referred to as upcoding.

The Commission believes that the level of PPS payments should reflect changes in patient care resource requirements, but not upcoding. In its annual recommendation on the update to the PPS rates, ProPAC includes an estimate of real CMI change during the previous year. The PPS update recommendation also accounts for increases in patient complexity within DRGs, which are not reflected in CMI changes. The resulting update removes the net effect of upcoding from PPS payments. The Commission's case-mix adjustment to the recommended PPS update for fiscal year 1992 is described in Chapter 2.

Changes in the CMI—including those due to upcoding—also may affect the distribution of PPS payments. At this time, however, it is not possible

to measure the effect of upcoding on the CMI for different hospitals or hospital groups.

Calculation of the DRG Weights—The DRG weights are intended to reflect the relative costliness of treating each type of patient. These weights are based on the average total charge for patients in each DRG, standardized for the PPS payment adjustments.

In its March 1988 report, the Commission recommended that the DRG weights be based on the estimated average costs of patients in each DRG, rather than on charges. Charge-based weights reflect the pricing behavior of hospitals as well as the resources required by the patients they treat, and thus may bias the distribution of PPS payments. ProPAC's analysis of the difference between cost-based and charge-based weights indicated that, although the two sets of weights are highly correlated, they result in systematic differences in payments. Large, urban, and major teaching hospitals are paid more—and small, rural, and non-teaching hospitals less—under charge-based weights than they would be under cost-based weights.

Adjustments for Hospital Characteristics

Under PPS, certain hospital characteristics are recognized as being associated with higher inpatient operating costs that are beyond the hospital's control. PPS payments to teaching hospitals and hospitals that treat a disproportionate share of poor patients are thus adjusted by formulas that depend on measures of their teaching intensity and share of low-income patients, respectively.

Indirect Medical Education Adjustment—The IME adjustment is intended to recognize the higher costs faced by teaching hospitals in the treatment of Medicare patients. These costs have been attributed to greater severity of illness among patients in teaching hospitals, even within each DRG; greater intensity of services provided to patients in teaching hospitals; and higher staffing concentrations and richer staff mixes. In addition, the poor overall financial performance of major teaching hospitals as a group indicates that their continued operation might be endangered without continued Federal support.

The IME adjustment accounts for an estimated 5.4 percent of all PPS payments under fiscal year

1991 payment rules. However, because these payments are concentrated among relatively few hospitals—59 percent of IME payments are received by only 4 percent of all PPS hospitals—they substantially influence the overall distribution of PPS payments. For instance, while urban hospitals account for 78 percent of all PPS discharges, they receive 98 percent of all IME payments. IME payments have a strong effect on the financial status of teaching hospitals. In the fifth year of PPS, major teaching hospitals had an aggregate PPS margin of 15.1 percent, compared with -1.7 percent for non-teaching hospitals. Despite this differential in PPS margins, the aggregate total margin for non-teaching hospitals (3.9 percent) was much higher than for major teaching hospitals (2.0 percent).

For the past several years, ProPAC has analyzed the relationship between teaching intensity and Medicare operating costs per discharge. On the basis of these analyses and other considerations, the Commission annually has made a recommendation on the IME adjustment. These recommendations generally have taken into account the estimated relationship between teaching intensity and Medicare operating costs. However, the Commission has also expressed concern about the poor overall financial status of major teaching hospitals and the potential effect on Medicare enrollees' access to high-quality health care. The Commission's recommendation on the IME adjustment for fiscal year 1992 is in Chapter 2, and the most recent ProPAC analysis of this issue is described in Appendix A.

Disproportionate Share Adjustment—The DSH adjustment recognizes the higher costs faced by hospitals that treat a disproportionate share of poor patients. These costs apply to the treatment of all their patients, including Medicare patients. They are attributed to greater severity of illness among poor patients in any DRG and greater difficulty in arranging for appropriate post-discharge care for these patients. There also are indirect costs—such as those associated with the need for bilingual staff and additional security—associated with operating in areas accessible to the poor. Moreover, because of the broader social purpose served by this group of hospitals, their weak overall financial performance is of particular concern.

With the changes in OBRA 1990, the DSH adjustment accounts for 4.1 percent of all PPS payments. However, as with the IME adjustment, these payments are concentrated among relatively few hospitals. As such, they also strongly influence the overall distribution of PPS payments and the financial status of disproportionate share hospitals. In the fifth year of PPS, disproportionate share hospitals had an aggregate PPS margin of 6.4 percent, compared with -0.2 percent for non-disproportionate share hospitals. However, the aggregate total margin was higher for non-disproportionate share hospitals (4.4 percent) than for disproportionate share hospitals (3.1 percent). The impact of DSH payments is likely to continue to grow over time because OBRA 1990 contains a provision that will increase the DSH adjustment in fiscal years 1994 and 1995.

In the past year, ProPAC and others have been reexamining the relationship between disproportionate share status and Medicare operating costs. In addition, other indicators of hospitals' care for the poor—such as the distribution of uncompensated care costs—are being examined. Moreover, there is considerable overlap between the hospitals that receive the IME and DSH adjustments. Disproportionate share hospitals receive almost two-thirds of all IME payments, while teaching hospitals receive more than two-thirds of all DSH payments.

These activities may lead to the development of potential modifications to the current adjustments under PPS. The Commission believes that these changes must be evaluated in relation to both their direct effects on the distribution of PPS payments and their interaction with the other factors that determine PPS payment and hospital financial condition.

Outlier Payment

The designers of PPS recognized that, regardless of the method used to categorize patients for payment, there would be some patients whose costs could not adequately be predicted by the payment system. Therefore, for exceptionally long or costly cases in each DRG, hospitals receive an additional outlier payment based on the length of stay or cost in excess of a preset threshold. These payments,

however, are not designed to compensate hospitals for the full costs of treating these patients.

Outlier payments account for about 5 percent of all PPS payments. They are financed by separate offsets to the urban and rural standardized payment amounts, so they probably do not affect the distribution of PPS payments as much as the IME and DSH adjustments do. However, they are concentrated among certain types of hospitals. For instance, teaching hospitals receive 66 percent of all outlier payments, compared with 53 percent of all PPS payments.

Any major refinement of the DRGs would be expected to have major effects on the definition, incidence, and method of payment for outliers. Further, any change in the distribution of outlier payments would, in turn, result in a change in the standardized amounts, since these amounts are adjusted for anticipated outlier payments for urban and rural hospitals. Moreover, since outlier payments are correlated with certain hospital characteristics (such as teaching status), changes in outlier payment may affect the corresponding payment adjustments.

IMPLICATIONS

In this chapter, the Commission has reviewed the structure of PPS and its effect on both aggregate PPS payments and the distribution of PPS payments across hospitals. The system's structure, and the interaction of its various components, raise several issues with important implications for the evaluation of PPS payment policy and potential changes to that policy.

Level of Payments

Both aggregate Medicare inpatient hospital payments and total Medicare payments have grown at much slower rates since the implementation of PPS. After a sharp decline in the rate of growth in the first year of PPS, total hospital costs have continued to grow faster than input prices—indicating that hospitals have not been as successful in holding down their costs as policy makers had anticipated. With costs also rising faster than Medicare payment rates, there is continued concern about the potential deterioration of hospital financial status.

From the beginning of PPS, it was recognized that the resulting financial pressure would require greater hospital efficiency to maintain access and quality. In the first few years, PPS payments were substantially higher than costs, diminishing the incentive for hospitals to reduce costs. Available evidence indicated no decline in either patient access or quality of care.

ProPAC estimates, however, that Medicare operating costs exceeded PPS payments by fiscal year 1989. Moreover, Congress has legislated PPS rate increases that are below the increase in input prices through fiscal year 1993. This indicates that hospitals may just be starting to feel substantial financial pressure from PPS—and that the lack of major access and quality problems in the early years may not be taken for granted in the future.

Despite the sharp decrease in PPS margins, there is evidence that overall hospital financial condition is stabilizing. Total margins, while lower than in the first few years of PPS, are as high now as at any time in the decade before PPS. This indicates that the threat of increasing numbers of hospital closures and major service cutbacks may not be as great as might appear from looking only at Medicare payments.

However, the difference between PPS and total margins indicates that hospitals have relied on sources of revenue other than Medicare to cover their costs. This shift in revenue sources has put more pressure on other payers for hospital services. The consequence could be higher costs of insurance coverage for people under 65 years of age and greater difficulty for those without insurance coverage or with inadequate coverage to obtain the care they need.

Distribution of Payments

By severing the connection between Medicare hospital payments and the operating costs of the individual hospital, PPS has substantially changed the distribution of payments. PPS payments are considerably greater than Medicare operating costs for some hospitals and much less for others. Moreover, the variation in PPS margins is systematically related to certain hospital characteristics. To the extent that this observation indicates inequities in the payment system or the unequal abilities of

different hospitals to respond to the system's incentives, it is the cause of some concern to the Commission.

There have been a number of changes in the payment rules since PPS began. Some of these changes have been attempts to fine-tune adjustments that were part of PPS from the beginning. Others have been intended to mitigate perceived inequities in the original design of the system. Together, they have had a significant effect on the distribution of payments across hospitals.

In addition, changes in the CMI have had a large effect on both the level and the distribution of PPS payments. The CMI for each hospital is determined by the hospital's mix of cases across DRGs, rather than by explicit policy decisions made by HCFA or Congress. As a result, the influence of CMI change is frequently overlooked or misinterpreted. In many instances, the effect of CMI change has negated or at least diminished the intended effects of PPS payment policy decisions.

The patterns of PPS and total margins are different across groups of hospitals, raising the issue of how to balance Medicare's potentially conflicting responsibilities. One responsibility is to compensate hospitals appropriately for the efficient provision of inpatient care to Medicare patients. The other is to maintain access to necessary services and the quality of those services. The maintenance of the IME and DSH adjustments above the levels indicated by analysis of Medicare costs alone reflects the recognition that both of these responsibilities are important.

Another increasingly evident fact is that, although some components of the payment system apply to groups of hospitals that share certain characteristics (like location or teaching status), financial performance within these groups varies considerably. The distribution of both PPS and total margins has become increasingly wider under PPS, which means there are greater differences between hospitals that do well and those that do poorly.

This trend is consistent with the desire to have the hospital bear more of the risk associated with treating Medicare patients. However, it also means that analyses based on average performance must

be interpreted with caution. Both the average outcome and the distribution of outcomes must be considered in evaluating the impact of PPS.

Interdependence of PPS Components

The structure of the payment system is such that changes in one component tend to have effects on other components. Because of this interdependence, the evaluation of incremental changes must be considered in the context of their effects on the system as a whole.

The elimination of the differential between the standardized payment amounts for hospitals in rural and other urban areas illustrates this complex interaction. Rural hospitals have had lower PPS margins than urban hospitals in every year since PPS began. Despite several policy changes aimed at eliminating this disadvantage, the difference has persisted, at least through the fifth year of PPS.

One source of the gap between urban and rural hospitals' payments under PPS is the differential in their standardized payment amounts. This differential was incorporated into the system to recognize the historically higher costs incurred by urban hospitals. However, the system has apparently overcompensated for this difference. In the fifth year of PPS, rural hospitals were paid about 45 percent less per discharge than urban hospitals, yet their costs were only about 40 percent lower. In response to this situation, Congress included in OBRA 1990 a provision that, by fiscal year 1995, the standardized payment amount for rural hospitals would be increased to match that for other urban hospitals.

This action will certainly increase payments to rural hospitals compared with what they would have been. However, it will not make them equal to payments for urban hospitals. The wage index, the CMI, and the IME and DSH adjustments all have had the effect of increasing the share of payments to urban hospitals. Moreover, this effect has grown over the years.

This example shows that, while changes in one component of PPS may be intended to accomplish a given policy objective, other components may mitigate the intended effect. This illustration demonstrates the importance of assessing the interactive effects of the various components of the payment system so that policy objective are met.

CONCLUSIONS

This chapter has reviewed the structure of PPS and the interrelationships among its components. These interactions require that incremental changes in PPS payment policy not be evaluated in isolation from the rest of the system. Each of the components of PPS affects other components and

is, in turn, affected by the others. Therefore, efforts to diagnose and correct perceived flaws in the system must be attempted with an eye toward their influence on the system as a whole. The Commission has taken this approach in developing the recommendations in Chapter 2. Any policy changes considered in the future should also be evaluated in this broader context.

Notes to Chapter 1

1. Other Medicare Part A payments include payments for skilled nursing, home health, end-stage renal disease, and hospice services. Medicare Part B payments primarily include payments for physician services, hospital outpatient services, and independent laboratory services.
2. Adjusted admissions is an indicator of the overall patient load of the hospital. It is a weighted sum of inpatient admissions and outpatient visits.
3. A similar analysis including fiscal year 1991 payment rules will be provided in the Commission's June 1991 report.
4. For payment purposes, large urban areas are metropolitan statistical areas with populations of one million or more, or New England Consolidated Metropolitan Areas with populations of 970,000 or more. Other urban areas are those not designated as large urban.
5. For the first four years, PPS payment rates were a blend of hospital-specific rates—based on each hospital's costs in a base year—and Federal rates—based on average standardized costs for urban and rural hospitals in each region and nationwide. Although the ProPAC analysis compares only the national rates, the establishment of a transition period could also be considered a policy decision with a distinct effect on the distribution of PPS payments.
6. This figure is based on MedPAR data for fiscal years 1984 and 1989, and ProPAC's estimate of a 2.5 percent increase in the CMI for fiscal year 1990.
7. The National Hospital Panel Survey is a monthly survey of hospitals conducted by the AHA. The data from this survey are not directly comparable to the Medicare Cost Report data cited above because the time periods covered do not match and because the figure reported by the AHA is the mean, rather than the aggregate, total margin.
8. See, for example, Judith Feder, Jack Hadley, and Stephen Zuckerman, "How Did Medicare's Prospective Payment System Affect Hospitals?" *New England Journal of Medicine* 317(14): 867-73, October 1, 1987; and Steven H. Sheingold, "The First Three Years of PPS: Impact on Medicare Costs," *Health Affairs* 8(3):191-204, Fall 1989.
9. In addition to updating the wage index, the 1988 HCFA data included benefits per paid hour of employment, while the 1984 data did not.
10. See *Adjustment to the Nonlabor-Related Portion of the Standardized Amounts*, ProPAC Technical Report C-89-03, August 1989.

Chapter 2

Recommendations

Recommendations

When the Prospective Payment Assessment Commission was created by Congress in 1983, its primary responsibility was to analyze issues and make recommendations for updating and improving the Medicare prospective payment system. Over time, Congress has expanded ProPAC's responsibilities to include analyzing current policies and developing future ones for prospective payment for all facility services furnished to Medicare beneficiaries.

The Commission's expanded responsibilities include payment policy for hospital outpatient services; services furnished in free-standing surgery, end-stage renal disease, and other facilities; and services provided by skilled nursing facilities and home health agencies. ProPAC, however, continues to devote substantial effort to updating and improving policies for PPS hospitals and excluded hospitals and distinct-part units. The Congress has also requested ProPAC to examine and report on broader issues regarding the effectiveness and quality of health care delivery in the United States.

From 1985 through 1990, ProPAC's recommendations were delivered to the Secretary of the Department of Health and Human Services. Following the enactment of the Omnibus Budget Reconciliation Act of 1990, the Commission's report and recommendations are now made directly to Congress. The Secretary, however, is still required to consider ProPAC's recommendations and respond to them in the annual notice of rulemaking published in the *Federal Register*.

ProPAC's analyses and decision making are guided by a set of principles that were initially developed on the basis of PPS goals, but that are applicable to other facility services. They include:

- Ensuring beneficiary access to high-quality health care;
- Encouraging hospital productivity and long-term cost-effectiveness;
- Facilitating innovation and appropriate technological change;
- Promoting equity in the distribution of payments to hospitals;
- Maintaining stability for providers, consumers, and third-party payers; and
- Making decisions based on reliable, timely data and information.

Along with these principles, the Commission is mindful of the current fiscal environment. Attaining a balanced Federal budget and controlling rising health care costs are concerns the Commission takes into account with each recommendation. Moreover, budgetary pressures intensify the need to address distributional and technical payment issues that may affect access and quality of care furnished to Medicare beneficiaries.

ProPAC's recommendations reflect the collective judgment of the 17 Commissioners. Some of the recommendations address annually recurring topics, such as the annual update factors. Others are either modifications of previous recommendations or cover new issues and incorporate recent research findings. This year, in addition to making recommendations, the Commission has highlighted several areas of concern. Work on these and other issues continues.

The Commission addresses eight areas:

- Updating PPS payments,
- Rural hospital payment,
- Teaching and disproportionate share hospital payment,
- Other adjustments to PPS,
- Capital payment,
- Updating and adjusting payments to PPS-excluded hospitals and distinct-part units,
- Hospital outpatient payment, and
- Uncompensated care.

The next section discusses these recommendations and concerns. The final section describes other issues considered by the Commission.

RECOMMENDATIONS FOR FISCAL YEAR 1992

Updating PPS Payments

The Commission is required by law to report to the Congress each year on the appropriate change factor for updating inpatient hospital payment rates under PPS. In developing its annual recommendation for updating the standardized payment amounts under PPS, ProPAC must consider changes in the hospital market basket and hospital productivity, technological and scientific advances, and the quality and long-term cost-effectiveness of health care. The Commission formerly made its update recommendation to the Secretary of Health and Human Services. Although this was changed under OBRA 1990, the Secretary must still consider the Commission's recommendation in developing his update recommendation.

In OBRA 1990, Congress legislated the PPS update for fiscal year 1992 at the increase in the market basket minus 1.6 percentage points for urban hospitals and minus 0.6 percentage points for rural hospitals. Although the fiscal year 1992 update has been set by law, the Commission has followed the approach it used in the past: examining individual factors that determine the update.

ProPAC believes these update amounts, together with increased per-case payments due to case-mix index change, are sufficient to maintain access to quality care by Medicare beneficiaries while encouraging the efficient provision of hospital care.

Recommendation 1: Amount of the Update Factor for PPS Hospitals

For fiscal year 1992, the PPS standardized payment amounts should be updated to account for the following factors:

- The projected increase in the HCFA PPS market basket, currently estimated at 4.8 percent;
- An adjustment of 0.2 percentage points, to reflect the difference between the ProPAC and HCFA market baskets;
- A correction for substantial error in the fiscal year 1990 market basket forecast, currently estimated at -1.0 percentage points;
- A discretionary adjustment factor of 0.2 percentage points; and
- A net -1.0 percentage point adjustment for case-mix change.

Further, an additional positive adjustment of 1.0 percentage points for rural hospitals should be made to reflect the second year of phasing out the differential in the standardized amounts between rural and other urban hospitals. Through differential updates, the rural standardized amount should be increased until it equals the other urban standardized amount in fiscal year 1995.

The Commission's recommendation would result in an increase of 4.2 percent for rural hospitals and 3.2 percent for urban hospitals. This reflects the Commission's judgment about the appropriate increase in the level of PPS prices for fiscal year 1992. Although this recommendation is likely to be modified as more current market basket forecasts become available, the amount recommended for rural and urban hospitals is the same as that specified in current law. The components of the Commission's update factor recommendation are

Table 2-1. Recommended PPS Update Factors for Fiscal Year 1992**Components of the Update Factor**

Components applied to all hospitals:

Fiscal year 1992 PPS market basket forecast*	4.8%
Adjustment to reflect ProPAC version of PPS market basket*	0.2
Correction for fiscal year 1990 forecast error	- 1.0

Components of discretionary adjustment factor

Scientific and technological advancement	0.7
Productivity	- 0.5
Total discretionary adjustment factor	0.2

Adjustments for case-mix change (fiscal year 1991)

Total DRG case-mix index change	- 2.5
Real DRG case-mix index change	1.3
Within-DRG case complexity change	0.2
Net adjustment for case-mix change	- 1.0

Additional adjustments to the standardized amounts:

Adjustment for large urban areas	0.0
Adjustment for other urban areas	0.0
Adjustment for rural areas	1.0

Total Update Factor

Large urban	3.2
Other urban	3.2
Rural	4.2
Average update factor	3.4

* Market basket forecast provided by the Health Care Financing Administration, Office of the Actuary, December 1990. The market basket forecast is subject to change as more current forecasts become available.

summarized in Table 2-1; a discussion of each follows.

The increase in average per-case payments will be greater than the PPS update. This is because hospital payments automatically rise with increases in the case-mix index. Future changes in the case-mix index are difficult to project, however. Based on currently available data, the Commission estimates that the 1992 case-mix index change will be 2.3 percent. As a result, the average increase in per-case payments under the Commission's recommendation would be about 5.7 percent, as shown in Table 2-2. ProPAC expects that a portion of the revenue increase associated with case-mix change will be offset by the added costs of treating sicker patients.

PPS Market Basket—The update recommendation is determined primarily by projected increases

in the PPS market basket. HCFA and ProPAC, however, have different versions of the PPS market basket. HCFA's version is currently projected to increase by 4.8 percent in fiscal year 1992, while ProPAC's market basket is projected to increase by 5.0 percent. Since the update is legislated relative to a market basket that HCFA would implement, HCFA's market basket construction would likely be used to update fiscal year 1992 payments.

The Commission believes, however, that its version of the market basket best reflects changes in

Table 2-2. Estimated Fiscal Year 1992 Average Increase in Per-Case PPS Payments

PPS update factor	3.4%
Estimated case-mix index change (fiscal year 1992)	2.3
Total increase in average PPS payments*	5.7

* Most of the increase in payments resulting from case-mix index change will be offset by the increased costs of treating sicker patients.

hospital input prices (prices hospitals pay for goods and services) and therefore should be used to update PPS payment rates. While HCFA adopted most of the Commission's 1990 recommendation on the market basket, it failed to adopt the key provision that increased the weight of internal hospital wages used in the wage component of the market basket. The Commission believes that HCFA's market basket, as currently constructed, does not adequately recognize the unique characteristics of the hospital labor market. Therefore, ProPAC's update recommendation includes a 0.2 percentage point adjustment, to reflect the difference between the two market basket forecasts. See Appendix A for more information.

Forecast Error Correction—ProPAC's update recommendation also includes a -1.0 percentage point adjustment for fiscal year 1990 market basket forecast error. A market basket forecast of 5.5 percent was used to set payments in fiscal year 1990. The actual market basket increase, however, was only 4.5 percent, creating a forecast error of -1.0 percentage points. ProPAC continues to believe the correction should be part of its update framework. The correction factor protects both hospitals and the Federal government by adjusting the base payment rates so that the effects of forecast errors are not perpetuated. See Appendix A for more information on the market basket forecast error correction factor.

Discretionary Adjustment Factor—The discretionary adjustment factor incorporates considerations related to scientific and technological advancement and hospital productivity improvement, as provided in the statute establishing PPS. Analysis of the available data has led the Commission to conclude that reasonable ranges of the positive scientific and technological advancement allowance and the negative productivity improvement adjustment net to 0.2 percentage points. This is based on a 0.7 percent scientific and technological advancement allowance and a -0.5 percent productivity adjustment. The Commission believes the DAF should continue to give hospitals an incentive to strive for productivity improvement as they adopt quality-enhancing technologies.

The scientific and technological advancement allowance is a future-oriented policy target. It provides additional funds for hospitals to adopt quality-enhancing but cost-increasing health care advances.

To develop an informed judgment on the allowance, the Commission examines a set of the most important new technologies and scientific developments each year, including the effects of those that either complement or substitute for existing technologies. The range of the estimated costs was 0.5 percent to 1.0 percent, but these estimates do not include the effect of "small-ticket" technologies or changes in practice patterns. Given the wide range of the possible cost impact, ProPAC believes that 0.7 percent is an appropriate level for the scientific and technological advancement allowance.

The productivity adjustment in the DAF is also a future-oriented target. Based partly on its analysis of the trend in productivity over the last 10 years, ProPAC thinks it is reasonable to expect hospitals to improve productivity during fiscal year 1992. The Commission also believes that it is appropriate for the costs of scientific and technological advancement to be financed partially by productivity gains. The -0.5 percent recommended adjustment assumes productivity gains of at least 1.0 percent, reflecting the Commission's policy that the savings from productivity improvement should be shared equally by the Medicare program and the hospital industry. See Appendix A for more information on the DAF.

Adjustments for Case-Mix Change—For fiscal year 1992, the PPS standardized amounts should be reduced by 1.0 percentage points to account for increased payments from case-mix index change. This adjustment reflects:

- A 2.5 percentage point reduction for the estimated case-mix index change during fiscal year 1991,
- A positive allowance of 1.3 percentage points for real across-DRG case-mix index change during fiscal year 1991, and
- A positive allowance of 0.2 percentage points for within-DRG case-complexity change during fiscal year 1991.

To allow payments to increase for real case-mix change, while removing the effect of upcoding (changes in medical record documentation or coding practices that affect DRG assignment), the Commission's recommended adjustment for case-mix change has three parts. The first component is

a negative adjustment for the CMI increase from the previous year. This is removed from the payment base because it includes the effects of upcoding. Two positive allowances are then made for real case-mix change: one for real, across-DRG CMI change and another for within-DRG case-complexity change. This methodology allows hospitals to keep increased payments for real changes in the resources used to treat patients, but not for changes in medical record documentation and coding practices.

Annual CMI change has generally declined over time. However, this downward trend has been interrupted when DRG changes created new opportunities for upcoding. ProPAC estimates that the CMI increased by 2.5 percent in 1990. Patient classification changes implemented in 1991 are expected to create additional potential for upcoding. Because of expected upcoding, the Commission projects that, rather than declining, CMI change will again be 2.5 percent in 1991 and 2.3 percent in 1992.

The Commission's estimate of real CMI change is based on previous studies that apportioned CMI change into real and upcoding components, and judgments about the future. ProPAC estimated that slightly more than half of the CMI change in 1990 was real. The Commission believes that about half, or 1.3 percent, of the CMI change in 1991 will be real.

The estimate of within-DRG case-complexity change was based on a study conducted under contract for ProPAC. The contractor estimated the amount of within-DRG case-complexity change from 1988 to 1989 by applying two patient classification systems to Medicare discharge data, while holding the DRG constant. The contractor estimated that case complexity increased by 0.3 percent over this period. The Commission estimates that case-complexity change in 1991 will be 0.2 percent. This estimate is based on the application of the study findings to more recent data.

During the first seven years of PPS, CMI change generated higher payment increases than those resulting from the annual updates and all other payment policy changes combined. Given the importance of case-mix change and the failure of CMI change to diminish as much as expected over

time, the Commission will continue to study this topic. See Appendix A for more information on case-mix change.

Differential Updates—ProPAC supports OBRA's provisions to eliminate the difference between the standardized amounts for hospitals in other urban areas (metropolitan areas with fewer than one million people) and rural areas. The difference should be eliminated by fiscal year 1995 by providing higher updates to rural hospitals. ProPAC recommended in 1990 eliminating the differential and is pleased this policy has been adopted. Therefore, an additional adjustment of 1.0 percentage points should be added to the update for rural hospitals.

Since the beginning of PPS, the differences between urban and rural hospitals' costs and payments have changed. This is primarily the result of two trends. Increases in payments due to case-mix index change have been higher in urban hospitals than in rural hospitals. In addition, rural hospitals have had larger declines in inpatient volume, raising fixed costs per case.

The Commission continues to believe that payments under PPS should take into account those factors that are beyond the control of hospitals and are known to increase hospital costs. Until these factors are better understood and measured, the elimination of the differential will help to ensure access to care for rural beneficiaries. As specific reasons for these cost differences are better explained, other, more targeted changes to rural hospital payments will be recommended.

Recommendation 2: Data for Evaluating Case-Mix Index Change

The Secretary should collect the data necessary to apportion case-mix index change into its real and upcoding components.

Case-mix index change is the largest single source of payment increases under PPS, yet it is difficult to determine how much of these increases are due to real changes in patient resource requirements. The most accurate way to analyze CMI change is by examining medical records. For the past two years, HCFA, with support from ProPAC, has sponsored a study of CMI change that used the medical record reabstraction approach. This study

produced estimates of real CMI change and upcoding. However, it cannot be replicated. The data source on which it was based, medical records collected by the SuperPRO for use in evaluating PRO performance, no longer provides a representative sample of PPS cases.

A representative sample of medical records that can be updated annually is needed if analysis of CMI change is to continue. Although there may be other potential sources, the SuperPRO sample could again be used for this type of study if the sampling scheme were appropriately modified.

The Commission believes that CMI change continues to warrant serious examination. If major improvements to the case-classification system are adopted, as have been proposed, the potential for upcoding—and therefore the need to separate CMI change into its real and upcoding components—will increase. ProPAC will continue to support HCFA in its efforts to analyze the components of CMI change.

Rural Hospital Payment

Since the implementation of PPS, numerous changes have been made in Medicare policies to reflect the changing pattern of rural health care delivery. While rural and urban hospitals currently exhibit similar overall financial performance, some rural hospitals continue to fare poorly under PPS. Several improvements in PPS policies have been enacted recently, and it is too soon to evaluate their effects. Other changes, such as eliminating the differential in the standardized amounts, are being phased in. Current PPS policies may not be appropriate for some rural hospitals, and the Commission is continuing its analyses of specific problems these hospitals face. A congressionally requested report, to be issued in mid-1991, will contain additional findings and recommendations. These recommendations will suggest policy reforms more tailored to the specific problems faced by some rural hospitals.

Many factors have affected the use and financial condition of hospitals in rural areas. These include changes in patient demographics, rural economies,

the use of hospitals by rural beneficiaries, physician availability, and third-party payment policies. While many of these factors are not directly related to the Medicare program, under PPS rural hospitals have generally not fared as well financially as urban hospitals.

The poorer performance of some rural hospitals is related to two separate trends. First, rural hospitals have experienced large declines in the demand for inpatient care. Because fixed costs are spread over fewer cases, costs per discharge have increased faster than Medicare payment rates. Second, the Medicare case-mix index, which in part determines PPS payments, has increased less rapidly and led to smaller increases in payments for rural hospitals compared with urban hospitals. In the fifth year of PPS, rural hospital PPS margins averaged -2.3 percent, while urban hospital PPS margins averaged 3.6 percent.

However, not all rural hospitals are doing poorly: during the same year, a quarter of all rural hospitals had PPS margins of at least 8.5 percent. Furthermore, rural hospitals' total hospital margins are significantly higher than their PPS margins and are similar to the total margins of urban hospitals. Thus, some rural hospitals are in little or no financial distress.

These mixed results may reflect the broad nature of many of the policy reforms adopted to date. Higher annual rural updates, improvements in the wage index, the shift from hospital to discharge weighting, and the creation of separate outlier financing pools for rural hospitals have increased payments to all rural hospitals. However, they have not targeted these increases to hospitals with specific problems. Most importantly, the Commission is concerned that a per-case payment system like PPS puts small hospitals and hospitals experiencing large volume declines at substantial risk.

To better understand the nature of the problems facing rural hospitals in distress, the Commission is conducting several analyses. Its findings and recommendations will be included in a report requested by the Senate Appropriations Committee. To be completed in mid-1991, this report will help identify potential policy solutions for the particular problems of subsets of rural hospitals for which current PPS policies may be inappropriate.

The Commission has organized its analyses of rural hospitals around the potential problems these institutions face. In one study, ProPAC is estimating the impact of changes in rural hospital payment policy under PPS. This analysis will assess the contributions of changes in Medicare policy, case mix, and volume to the financial condition of these institutions. In another study, the Commission is examining the role of declines and volatility in volume in shaping hospital performance. This study will assess the impact of a possible automatic volume adjustment for hospitals experiencing large declines in volume. In addition, the Commission will examine the effect of large volume declines on fixed and average costs and the implications for payments.

Low volume and differences in resource use may also affect the adequacy of the current DRG weights, and thus payments, for rural hospitals. Given their size and occupancy, some rural hospitals may not have the volume necessary to produce sufficiently low average costs per case so that their payments cover their actual costs. Low-volume hospitals also may be adversely affected by the high variability in the costs of their cases. Since PPS payments are based on national average amounts, low-volume hospitals may experience greater year-to-year variation in their PPS performance. In addition, it is possible that national weights may be unfair because weights based on rural hospitals' costs may be quite different from those based on urban hospital costs.

Finally, ProPAC is concerned that the current definition of sole community hospitals is ineffective in identifying hospitals requiring special protection to ensure rural beneficiaries' access to care. Both access to care and hospital performance will be considered in evaluating whether a subset of hospitals requires special protection and, if so, how best to accomplish this.

These analyses will provide important information on the nature and extent of the problems experienced by rural hospitals. They will suggest more tailored policy reforms directed at the specific problems that some rural hospitals are experiencing. Implicitly, the studies also investigate the appropriateness of PPS for small, low-volume hospitals. The Commission is aware, however, that many factors shape rural hospital financial status. Only some of these are related to

the adequacy and distribution of PPS payments. While the Medicare program cannot be expected to reverse the effects of broader shifts in the economy or demographics, it should help ensure access to care for all its beneficiaries.

Teaching and Disproportionate Share Hospital Payment

PPS payments are adjusted to recognize the indirect costs of graduate medical education programs and the additional costs faced by hospitals that provide care to a disproportionate share of low-income patients. The adjustment for indirect medical education costs is based on a measure of the hospital's teaching intensity, determined by the ratio of interns and residents per bed. The adjustment for disproportionate share hospitals is based on the hospital's low-income share, which is defined as the sum of two proportions: the proportion of patient days accounted for by Medicaid patients and the proportion of Medicare patient days accounted for by patients who also receive Supplemental Security Income (SSI) payments.

Recently, these adjustments have been the subject of increasing attention. The Administration has proposed sharp reductions in the IME adjustment in each of the past several years. The Commission has proposed comparatively slight reductions, but the IME adjustment remains approximately 7.7 percent for every 10 percent increment in teaching intensity. ProPAC estimates that the IME adjustment accounts for 5.4 percent of total PPS payments under fiscal year 1991 payment rules.

The DSH adjustment was added to PPS in fiscal year 1986, and its importance has grown since then. In OBRA 1989, Congress increased the size of the adjustment for many disproportionate share hospitals as well as the number of hospitals in rural areas that qualify for an adjustment. In OBRA 1990, the Congress again substantially increased the size of the adjustment, primarily for hospitals in urban areas. Under fiscal year 1991 payment rules, the DSH adjustment accounts for an estimated 4.1 percent of total PPS payments.

ProPAC has analyzed the IME and DSH adjustments, their interaction, and their effects on hospital payments and financial status. Based on this analysis, the Commission is recommending a reduction in the level of the IME adjustment together

with increased efforts to better target both adjustments to achieve their policy objectives.

Recommendation 3: The Indirect Medical Education Adjustment

The Commission recommends that the indirect medical education adjustment to PPS payments be reduced from its current level of 7.7 percent to 7.0 percent for fiscal year 1992. This reduction should be implemented in a budget-neutral fashion, with the anticipated decrease in indirect medical education payments returned to all hospitals through corresponding increases in the standardized payment amounts.

The IME adjustment is intended to recognize the higher costs incurred by teaching hospitals in the treatment of Medicare patients. These costs have been attributed to the treatment of patients with more severe or complex illnesses, the provision of a broader scope and greater intensity of services, the use of a more costly mix of staff, and greater facility expenses.

ProPAC annually estimates the relationship between teaching intensity and Medicare operating costs per discharge, adjusted for differences in other PPS payment factors. These factors include geographic differences in the PPS base payment amounts, the local area wage index, the hospital's Medicare case-mix index, the DSH adjustment, and outlier payments. The most recent analysis was based on cost data from the fifth year of PPS and payment rules for fiscal year 1991. The results indicate that, on average, a 10 percent difference in teaching intensity is associated with a 2.1 percent difference in Medicare operating costs per discharge.

This year, however, the Commission also estimated the same relationship without adjusting for DSH payments. This approach was designed to determine the effect of teaching intensity on costs, separate from the influence of DSH payments. This reflects the Commission's determination that the IME and DSH adjustments have essentially different policy objectives, although there is substantial overlap between them. The objectives of the IME and DSH adjustments are discussed further below.

Omitting the DSH adjustment from the analysis increased the estimated teaching intensity effect to 4.2 percent. This indicates that DSH payments account for about half of the difference in costs that would otherwise be attributed to teaching intensity.

The Commission recognizes that, since PPS began, the Medicare program has more than adequately compensated teaching hospitals for the costs of treating Medicare patients. The current 7.7 percent IME adjustment is substantially higher than the empirical estimate of 4.2 percent indicated by the most recent analysis. Moreover, PPS operating margins consistently have been higher for teaching hospitals than for non-teaching hospitals. PPS margins for major teaching hospitals—a small group of hospitals that receive a majority of IME payments—have been especially high.

However, the overall financial performance of major teaching hospitals has been poor relative to other hospitals. Major teaching hospitals have had lower total margins than other hospital groups. The pattern of IME payments across hospitals indicates that these payments are concentrated among hospitals with low total margins. The Commission is concerned that the continued operation of these hospitals and the fulfillment of their unique role in the provision of health care might be impaired without continued Federal support.

The Commission believes that the Medicare program's responsibility to its enrollees is broader than merely the payment of Medicare operating costs. This responsibility includes the maintenance of access to high-quality health care, which might be affected adversely if the poor financial status of major teaching hospitals were to worsen. A sharp reduction of the IME adjustment might have that undesirable effect.

Given these considerations, the Commission believes that a gradual reduction of the IME adjustment is a prudent course of action. This reduction should be implemented in conjunction with better targeting of payments to the teaching and other hospitals in most need. The ProPAC recommendation would reduce the adjustment by one-fifth of the difference between its current level and the Commission's empirical estimate of 4.2 percent. Before recommending further reductions, the

Commission will examine the financial status of teaching hospitals to avoid any deleterious effects on access to high-quality care for Medicare beneficiaries.

This approach recognizes as an ultimate objective the use of the IME adjustment to appropriately compensate for differences in Medicare costs that are attributable to differences in teaching intensity. At the same time, the DSH adjustment or a future refinement of that adjustment should be used to fulfill the broader social responsibilities of the Medicare program as efficiently as possible. No preferable alternative to the DSH adjustment is available at this time, but the amount of information on this issue has grown rapidly in the past year. The Commission's agenda for refining the DSH adjustment is discussed further in the next section.

The Commission therefore recommends a reduction in the IME adjustment from its current level of 7.7 percent to 7.0 percent for fiscal year 1992. The anticipated decrease in IME payments that would result from this reduction should be exactly offset by corresponding increases in the standardized payment amounts for urban and rural hospitals.

As stated above, reductions in the IME adjustment should be considered in the context of their interaction with the other components of the payment system and their effect on PPS payments, as well as hospitals' overall financial status. The impact on the quality of care and access to that care should also be considered. In general, any change in Medicare payment policy must be considered in terms of its effect on the health care system as a whole.

Toward this end, the Commission has intensified its attempts to understand the effects of factors external to the Medicare program and their interactions with Medicare payment. Several of these factors—such as the burden of uncompensated care, which is discussed later in this chapter—may affect the environment in which teaching hospitals operate, and thus be important in determining the appropriate way to pay them.

In the coming year, ProPAC will continue to examine the level and structure of the IME adjustment, as well as other factors that influence payments and costs for teaching hospitals and their financial condition. The distribution of PPS and total margins and the other effects of potential changes in the IME adjustment will also be studied. A description of ProPAC's most recent analysis is in Appendix A.

The Disproportionate Share Adjustment

The Commission believes it is important to examine the structure of the disproportionate share adjustment and the interaction between this adjustment and other elements of the health care financing system, both within and beyond the Medicare program. This examination will focus on developing changes that will better target the payments made under the disproportionate share adjustment to achieve its policy objectives.

One purpose of the DSH adjustment is to recognize the additional costs faced by hospitals that treat a disproportionate share of indigent patients in treating all patients, including those covered by Medicare. These costs are attributable to greater severity of illness among poor patients in any diagnosis-related group, and greater difficulty in arranging for post-acute care for these patients. In addition, there are indirect costs—such as bilingual staff and additional security requirements—associated with operating in areas accessible to the poor.

There is substantial overlap between the hospitals that receive the IME and DSH adjustments. Under fiscal year 1991 payment rules, disproportionate share hospitals receive more than two-thirds of all IME payments, and teaching hospitals receive about two-thirds of all DSH payments.

However, ProPAC's analysis indicates that, unlike teaching hospitals, disproportionate share hospitals generally do not have significantly higher Medicare costs than other hospitals. Urban hospitals with large shares of low-income patients are the only exception to this finding.

Like teaching hospitals, disproportionate share hospitals have been more than compensated for their Medicare costs. PPS margins for disproportionate share hospitals are substantially higher than for other hospitals. However, disproportionate share hospitals have low total margins.

There also is overlap in financial status by teaching and disproportionate share status. Hospitals that receive both IME and DSH adjustments to their PPS payments have the highest PPS margin as a group, while hospitals that receive neither adjustment have the lowest PPS margin. However, the total margin for the teaching and disproportionate share group is lower than for the other groups.

Of particular note is the poor overall financial condition of disproportionate share hospitals in the cores of large urban areas. These hospitals provide the main link to the health care system for many people who are too poor to pay for medical care. Without appropriate Federal support, many of these hospitals might lack the resources to provide the care required by the population they serve.

The Commission believes that, although the relationship between disproportionate share status and Medicare costs is not strong, this may be due to the revenue constraints historically faced by hospitals that provide the bulk of care to the poor. Moreover, it is appropriate for the Federal government to subsidize continued access to care for this population, which includes many Medicare beneficiaries. Although it could be argued that more direct policy initiatives would be more effective in accomplishing this goal, the Medicare and Medicaid programs are currently the primary vehicles for such financial support.

In this context, the Commission believes it is important to improve the allocation of IME and DSH payments to fulfill two objectives. One is the program-specific objective of appropriately compensating hospitals for their Medicare costs. The other is the broader objective of maintaining access to care for the Medicare population and others.

ProPAC has undertaken several analyses of the structure of the IME and DSH adjustments and their effects, and also of factors that might indicate better ways to target IME and DSH payments. These analyses indicate that, although both IME and DSH payments appear to be concentrated

among hospitals with low total margins, such payments also are received by hospitals that were not in poor financial condition in the fifth year of PPS. Moreover, the patterns of IME and DSH payments across hospitals do not seem to correspond well to the pattern of uncompensated care burden (see the discussion of uncompensated care later in this chapter).

Neither total margin nor uncompensated care burden is necessarily a good indicator of the appropriateness of the distribution of IME or DSH payments. However, these analyses show that, regardless of the measure, the current targeting of IME and DSH payments, while in the right direction, leaves room for improvement.

In its recommendation on the IME adjustment, the Commission states that the DSH adjustment or a future refinement of that adjustment should be used to fulfill the broader social responsibilities of the Medicare program as efficiently as possible. The Commission will focus in the coming year on developing information on the effects of the current DSH adjustment and the feasibility of alternatives to that adjustment. ProPAC also urges the Secretary of Health and Human Services to pursue this line of analysis—including the analysis and development of more direct methods beyond Medicare for fulfilling the Federal government's broader responsibilities to maintain access to high-quality health care for the entire population.

Other Adjustments to PPS

Recommendation 4: Improving the Area Wage Index

The Secretary should collect data on employee compensation and paid hours of employment for hospital workers by occupational category. Once these data become available, the Secretary should implement an adjustment in the area wage index. This adjustment would correct for the inappropriate inclusion in the wage index of geographic differences in the mix of occupations employed.

Hospital expenditures for labor vary across geographic areas because of differences in the price of labor and the occupational mix employed by hospitals. The price of labor varies across areas because

of differences in the cost of living and other local market conditions. The occupational mix varies across areas due to differences in the complexity of services produced in an area, the supply of certain occupations, and staffing practices. Currently, the HCFA wage index reflects variations in the mix of occupations as well as the price of labor.

The Commission believes that compensating hospitals through the area wage index for differences in occupational mix across areas is inconsistent with the design of PPS. Differences in expenditures caused by variation in the price per unit of labor are beyond the hospital's control. Differences in expenditures due to variations in the mix of occupations employed, however, are either within the hospital's control or are already accounted for by other adjustments in PPS.

ProPAC's study of 1988 California hospital wage and hour data suggests that an adjustment for occupational mix would increase the wage index values in rural areas and decrease the values in large urban areas. In this study, the wage index value for rural California would have risen by about 3.0 percent. The change in the wage index ranged from a 2.4 percent decrease for Oakland (population 1.8 million) to a 7 percent increase for Yuba City (population 101,000). Further, the adjustment appeared to decrease the variation in wage index values across areas. This means that the current wage index tends to overcompensate areas with high wage index values and undercompensate areas with low wage index values.

Last year, the Commission examined the effect of adjusting the wage index using Bureau of the Census wage data on occupations typically employed in hospitals and American Hospital Association full-time equivalent (FTE) employment data. ProPAC found that holding differences in occupational mix constant across areas would increase the wage index values in more than 75 percent of rural areas. The median wage index in urban areas, however, would decline slightly. The urban and rural findings varied by region. The wage index values in both urban and rural areas would increase in the South but decline in the Northeast. The regional effect likely reflects the location of hospitals with a more expensive occupational mix, teaching hospitals, relatively large institutions, and hospitals in large metropolitan statistical areas

(MSAs). Finally, wage index values in some areas were affected more than in others. In Montana and in some small southern MSAs, the increase in these values was three to six times higher than the average 1.8 percent increase in rural areas.

The impact on the distribution of payments among hospitals would depend on how the new adjusted wage index is implemented. Under the current system, the 3 percent increase in the wage index for rural California indicated by the recent study would result in a payment increase of about 2 percent.

The Commission has considered the feasibility and burden of collecting the data on wages and paid hours of employment necessary to adjust for occupational mix. The California experience indicates that hospital reporting of these data is clearly feasible. In addition, several other states have reporting systems similar to the system in California.

Although ProPAC did not formally measure the burden of hospital reporting, the example of hospitals in California and elsewhere indicates that the cost would not be prohibitive. Once such a system is implemented, the ongoing cost of reporting wage and hour data by occupational category is likely to be quite small. The Commission recommends prospective implementation of occupational definitions and data collection methods to minimize administrative burden and improve the accuracy of the data. In addition, the data should be collected, as in California, by cost centers. This would allow the development of separate wage indexes for inpatient and ambulatory services. Finally, the Commission believes that data on hours worked and expenditures for contract labor should be collected by occupation and cost center. This would permit an evaluation of the impact of including contract labor in the wage index.

ProPAC also considered the potential impact of state codes and staffing requirements on variations in hospital occupational mix. Some have argued that local staffing practices are not fully within the hospital's control because of state minimum staffing requirements. If this were true, hospitals in states that have strict requirements, such as New York, would be expected to have relatively high levels of occupational mix. However, based on a ProPAC analysis of American Hospital Association

data, the typical hospital in New York State appears to have an occupational mix index value that is only slightly higher than the national median.

Recommendation 5: Adjusting Payments for Acute Myocardial Infarction Cases

A one-time adjustment should be made in the DRG recalibration process used in calculating revised DRG weights for fiscal year 1992. The adjustment would be designed to prevent continuation of errors in payment caused by changes in coding and DRG assignments for patients with a diagnosis of myocardial infarction.

In fiscal year 1990, HCFA implemented new, five-digit codes for cases with a diagnosis of myocardial infarction (MI). These codes distinguish patients who had an acute MI just before or during their hospital stay from those who were no longer in the acute phase of this illness at the time of admission. HCFA also reassigned the nonacute cases from the acute MI DRGs to other DRGs that are more appropriate in terms of both clinical characteristics and resource use. However, historical data reflecting these coding and assignment changes were not available. Therefore, HCFA decided not to change the DRG relative weights for either the acute MI DRGs or the other DRGs to which the nonacute MI cases were reassigned.

At the time, the Commission was concerned about the short- and long-term payment inequities resulting from these decisions. Weights for the acute MI DRGs for fiscal years 1990 and 1991 are based on all MI cases, both acute and nonacute, treated during fiscal years 1988 and 1989, respectively. Consequently, these weights are inappropriately low for the relatively high-cost acute MI cases assigned to these DRGs in fiscal year 1990 and later years. Similarly, the weights for other DRGs do not account for the nonacute MI cases that are now reassigned to them for payment. Preliminary evidence suggests that, on average, these weights are also too low. Therefore, hospitals treating patients in the acute MI DRGs and the other DRGs affected by the coding and assignment changes were underpaid during fiscal year 1990. This has continued during fiscal year 1991.

The problem of incorrect weights will be resolved when the weights are recalculated for fiscal

year 1992. The new weights will be based on fiscal year 1990 data, which reflect the coding changes adopted in that year. Therefore, it will be possible to calculate correct relative weights for both the acute MI DRGs and the other DRGs affected by the reassignment of nonacute MI cases.

However, the Commission continues to be concerned that the recalibration process, which is used to revise the weights each year, ensures that the underpayments in fiscal years 1990 and 1991 will be carried forward into the future. In recalibration, the fiscal year 1992 weights will be adjusted proportionately so that the average weight for all 1990 cases is the same, whether fiscal year 1991 or 1992 weights are used. In addition, current law requires the Secretary to make further adjustments, as necessary, to ensure that the 1992 DRG classification system and the final 1992 weights neither increase nor decrease aggregate PPS payments to hospitals.

In both parts of this process, the standard of comparison is based on the DRG classification system and weights for fiscal year 1991. The fiscal year 1991 weights, however, reflect the underpayment for cases included in the acute MI DRGs and the other DRGs affected by reassigning the nonacute MI cases. Therefore, the overall average weight based on the fiscal year 1991 weights will be too low. Without an offsetting adjustment, the underpayments that occurred in fiscal year 1991 will continue to affect the level of the weights for all DRGs in fiscal year 1992 and later years.

To avoid perpetuating these unintended errors in payments, the Commission recommends that HCFA make a compensating adjustment when the new weights are recalibrated for fiscal year 1992. ProPAC will be pleased to work with HCFA to devise an appropriate adjustment.

Capital Payment

The Commission believes that Medicare capital payment policy should recognize hospitals' prior capital expenditures and related financing costs, while encouraging appropriate and efficient investments. Further, the policy should be designed to limit increases in aggregate program expenditures for inpatient hospital care. ProPAC will evaluate and comment on the forth-

coming capital payment proposal from the Secretary of Health and Human Services. It will recommend modifications to the proposal, as appropriate, or an alternative payment approach, if warranted.

The Secretary is required to develop a prospective payment system for capital to be implemented beginning October 1, 1991. Because of this legislative requirement, the Commission has again turned its attention to Medicare capital payment policy. In 1986 and 1987, ProPAC recommended that capital be incorporated in an all-inclusive prospective payment rate. Given changes in the hospital environment, however, the Commission has chosen to lay aside its previous recommendations and reconsider capital payment policy.

Since the beginning of PPS, it has been intended that hospital capital costs would be incorporated under the DRG payment rate. The timing of this incorporation has been repeatedly delayed through legislation, for technical and political reasons. Policy makers and the hospital industry have had difficulty developing a plan for prospective payment for capital because capital costs, more than operating costs, vary significantly across similar institutions. This variation is due to many factors, including differences in the timing of major capital investments and various financing methods and rates. Capital costs associated with major projects generally extend over a significant period. Therefore, hospital managers have limited ability to adjust existing costs to adapt to changing financial incentives or patient demand.

The Commission appreciates that a change in Medicare capital payment may be disruptive to some hospitals. On the other hand, there are important arguments for applying the incentives of PPS to capital costs as well as to operating costs. Currently, hospitals may have incentives to choose capital investments over operating investments. This is because Medicare pays for operating costs on a fixed, prospective, per-case basis, while capital costs are paid on a hospital-specific, cost basis with a discount. The Commission will balance these concerns, and consider information about the growth in capital costs, in assessing appropriate capital payment policy.

Updating and Adjusting Payments to PPS-Excluded Hospitals and Distinct-Part Units

Since the implementation of Medicare's prospective payment system in 1983, psychiatric, rehabilitation, long-term, and children's hospitals and psychiatric, as well as rehabilitation distinct-part units, have been exempt. Cancer hospitals were exempted from PPS as a result of OBRA 1989. The primary reason for their exemption is that DRGs do not accurately predict resource costs for these providers.

PPS-excluded hospitals and distinct-part units are subject to the payment limitations and incentives established in the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA). They are paid on the basis of each facility's historical costs trended forward, with a limit placed on the rate of increase in per-case reimbursable costs. These TEFRA target rate-of-increase limits are updated annually. The target rate per discharge is based on hospital-specific Medicare costs in a base year. The base year varies depending on when the facility was constructed or converted to a PPS-excluded category.

Facilities with costs less than the target rate per discharge receive their costs plus an additional payment that is the lesser of 50 percent of the difference between its costs and the TEFRA target rate, or 5 percent of the TEFRA target rate. Beginning in fiscal year 1992, providers with costs exceeding their target rates will receive 50 percent of this difference subject to a payment ceiling of 110 percent of the target amount.

The Secretary is required to provide for an exemption from, or an exception and adjustment to, the amount of payment for a hospital when events beyond the hospital's control result in the increase in costs for a reporting period. The Administrator of HCFA is required to provide written guidance to the intermediaries and hospitals to assist them in filing complete applications.

The TEFRA target rate-of-increase limits are updated annually. PPS-excluded hospitals and distinct-part units received the same update provided to PPS hospitals until fiscal year 1989. The PPS update, however, was constrained due to

rapid growth in PPS payments resulting from case-mix index increases. Over the first seven years, payments to PPS providers increased nearly 70 percent, reflecting the update factor and reported changes in case mix. The market basket increase during this period was about 35 percent. However, PPS updates, and thus the TEFRA target rates, increased only 27 percent. PPS-excluded providers did not benefit from the increased payments PPS hospitals received due to changes in the CMI.

Since fiscal year 1989, Congress has set the TEFRA target rate update equal to the projected increase in the market basket, as recommended by ProPAC. Beginning in fiscal year 1991, the Secretary implemented a separate market basket for PPS-excluded providers. While the update has been legislated, Congress requires the Commission and the Secretary of HHS to make their own recommendation for an annual update factor to the TEFRA target rates.

Recommendation 6: Amount of the Update Factor for PPS-Excluded Hospitals and Distinct-Part Units

For fiscal year 1992, the target rate of increase for PPS-excluded hospitals and distinct-part units should be updated to account for the following factors:

- **The projected increase in the HCFA PPS-excluded market basket, currently estimated at 4.9 percent;**
- **An adjustment to the market basket of 0.2 percentage points, to reflect the difference between the ProPAC and HCFA market baskets;**
- **A correction for substantial error in the fiscal year 1990 market basket forecast, currently estimated at -1.0 percentage points; and**
- **An allowance for scientific and technological advancement of 0.1 percentage points.**

In addition, a positive allowance should be given to TEFRA providers that entered the program before fiscal year 1989, depending on the base year used to calculate their target rates. This allowance reflects the difference between the actual updates given in earlier years and the market basket for that year.

The legislated update to the TEFRA target rate is the projected increase in the market basket. The Commission recommendation results in an average update to the target rate equal to the market basket minus 0.7 percent (see Table 2-3). ProPAC believes the savings achieved from this reduction

Table 2-3. Recommended PPS-Excluded Update Factor for Fiscal Year 1992

Components of the Update Factor	
Components applied to all hospitals and distinct-part units:	
Fiscal year 1992 PPS-excluded market basket forecast*	4.9%
Adjustment to reflect ProPAC version of PPS-excluded market basket*	0.2
Correction for fiscal year 1990 forecast error	- 1.0
Allowance for scientific and technological advancement	0.1
Average update before positive allowance adjustment	4.2
Cumulative positive allowance adjustment by year of exclusion	
1984 - 1988	6.6
1985 - 1988	6.4
1986 - 1988	7.0
1987 - 1988	4.5
1988	2.1

Note: For more information on the computation of the cumulative positive allowance adjustment, see Appendix A.
* Market basket forecast provided by the Health Care Financing Administration, Office of the Actuary, December 1990. The market basket forecast is subject to change as more current forecasts become available.

should be used to help offset the increased costs resulting from the positive allowance adjustment based on the hospital's base year.

PPS-Excluded Market Basket—The update recommendation is determined primarily by projected increases in the PPS-excluded market basket. HCFA and ProPAC, however, have different versions of the market basket. HCFA's version is currently projected to increase by 4.9 percent in fiscal year 1992, while ProPAC's market basket is projected to increase by 5.1 percent. Since the update is legislated relative to a market basket that HCFA would implement, HCFA's market basket construction would likely be used to update fiscal year 1992 payments.

The Commission believes, however, that its version of the market basket best reflects changes in hospital input prices (prices hospitals pay for goods and services) and therefore should be used to update PPS-excluded payment rates. While HCFA adopted most of the Commission's 1990 recommendation on the market basket, it failed to adopt the key provision that increased the weight of internal hospital wages used in the wage component of the market basket. The Commission believes that HCFA's market basket, as currently constructed, does not adequately recognize the unique characteristics of the hospital labor market. Therefore, ProPAC's update recommendation includes a 0.2 percentage point adjustment to reflect the difference between the two market basket forecasts. See Appendix A for more information.

Forecast Error Correction—ProPAC's update recommendation also includes a -1.0 percentage point adjustment for fiscal year 1990 market basket forecast error. A market basket forecast of 5.5 percent was used to set payments in fiscal year 1990. The actual market basket increase, however, was only 4.5 percent, creating a forecast error of -1.0 percentage points. ProPAC continues to believe the correction should be part of its update framework. The correction factor protects both hospitals and the Federal government by adjusting the base payment rates so the effects of forecast errors are not perpetuated. See Appendix A for more information on the market basket forecast error correction factor.

Scientific and Technological Advancement—

The scientific and technological advancement allowance for PPS-excluded facilities reflects ProPAC's judgment about the appropriate increase in payments to implement quality-enhancing but cost-increasing technology. In order to develop an informed judgment on the allowance, the Commission examines a set of the most important new technologies and scientific developments each year. Based on this examination, an increase of 0.1 percentage points to the target rates is needed to offset the cost of new technologies.

Unlike the PPS update, a productivity adjustment is, in the Commission's view, not appropriate for PPS-excluded facilities. The productivity adjustment for PPS hospitals is based on the belief that Medicare should share in a portion of the savings generated by productivity improvements. However, Medicare automatically shares in these savings under TEFRA. Facilities with costs less than the target amount receive their costs, plus the lesser of 5 percent of the target amount or 50 percent of the difference between their target amount and costs. Therefore, part of any productivity increase is factored into reduced Medicare payments. The Commission believes that further reductions in payments for productivity improvement are not appropriate for PPS-excluded providers.

Positive Adjustment Allowance—Based on the Commission's initial analysis of PPS-excluded facilities, it appears that the earlier a provider was excluded from PPS the more financially vulnerable it has become. This is, in part, because hospitals and distinct-part units excluded before fiscal year 1989 received the same update provided to PPS hospitals. The PPS update was reduced to account for rapid growth in payments resulting from CMI increases. PPS-excluded providers, however, did not benefit from increased payments due to CMI changes.

In the Commission's view, these providers should have received the full increase in the market basket. Therefore, PPS-excluded providers that were subject to the TEFRA limits during this period should be given an additional update that equals

the difference between the market basket increase and the actual update received. Further, the Secretary is required to provide for an exemption from, or an exception and adjustment to, a hospital's payments when events beyond the hospital's control affect the increase in costs during a reporting period. In general, a request for an adjustment must be made by the provider for each year in which costs exceed payments. In these cases, the Secretary is permitted to provide the most appropriate method for adjustment, including the assignment of a new base year.

The Commission believes that providing a positive allowance adjustment to providers that were excluded in the early years will reduce the amount of future adjustments. However, providers that had new target rates computed to reflect more recent cost data should not receive the positive allowance.

The Commission's update recommendation for PPS-excluded hospitals and distinct-part units would result in an estimated 4.2 percent average update factor for fiscal year 1992. The positive allowances are estimated by comparing the actual update with the market basket.

Additional Concerns—The Commission is hopeful that the adoption of a positive allowance adjustment will reduce the need for a cumbersome exceptions process. Nevertheless, the Commission remains concerned about the lack of guidance providers have on the type of data needed to document justifiable changes in costs. In addition, the criteria used to determine whether an exception was merited have been ambiguous and inconsistent. These problems often have resulted in lengthy reviews.

Concerned over the lack of clear guidance in this area, Congress in OBRA 1990 specified the procedure and criteria for an exception or adjustment to the target rates. In addition, the grounds on which the Secretary may grant an appeal for an exception or adjustment were clarified. Further, the Administrator of HCFA was required to provide guidance to the intermediaries and hospitals to help them file complete applications.

The Commission supports this congressional mandate. ProPAC believes that clear guidance to both hospitals and fiscal intermediaries could reduce the time and resources required in the review

process. It would allow providers to collect data needed for the exception process during the course of the reporting period. Further, it would eliminate inconsistency in application of the process, thereby ensuring that it is fair and equitable.

The Commission believes that data on successful applications should be systematically collected. The Medicare Cost Report data are a valuable source for assessing the financial effects of TEFRA. However, cost reports are not amended to reflect adjustments resulting from the review process. Therefore, cost report data may overstate any negative financial impact of TEFRA payments on providers.

In addition, anecdotal evidence suggests that over time, PPS-excluded providers are treating patients with more complex conditions. PPS provided hospitals with an incentive to discharge patients sooner. In the early years of PPS, average length of stay in PPS hospitals declined. To the extent these patients were admitted to excluded facilities, they may be sicker and require more intensive care than before. Additional evidence suggests that PPS-excluded providers are hiring a more highly skilled mix of employees, which is consistent with treating more complex cases. These changes in resource use and skill mix may not be reflected in payments to excluded facilities to the extent that they were not included in base year costs. However, there are no data to measure these factors.

The Commission will continue to evaluate the appropriateness of the TEFRA system. As required by Congress, ProPAC will analyze and comment on any proposals developed by the Secretary. In addition, the Commission looks forward to working with the Secretary on developing refinements to the TEFRA system. See Appendix A for more information.

Hospital Outpatient Payment

During the 1980s, there was unprecedented growth in the delivery of care in the outpatient setting. Outpatient revenue is becoming a larger share of total hospital revenue. These revenues are an even larger proportion of total revenues for smaller hospitals and those located in rural areas. Moreover, Medicare benefit payments for outpatient hospital services increased two to three times

faster than those for inpatient services. For example, between fiscal years 1983 and 1989, the average annual rate of growth in Medicare outpatient benefit payments was 15.6 percent compared with 6.1 percent for hospital inpatient benefit payments. Expenditures also increased for outpatient services provided in free-standing settings such as physicians' offices and ambulatory surgery centers. (For additional information on the growth in outpatient services refer to ProPAC's *Hospital Outpatient Services: Background Report*, C-90-02, July 1990.)

Congress has instructed both ProPAC and the Secretary of HHS to develop alternative outpatient payment systems. The Omnibus Budget Reconciliation Act of 1990 requires the Secretary to develop a proposal to replace Medicare's current payment system for hospital outpatient services with a prospective payment system. The Secretary must submit his report by September 1, 1991. ProPAC is required to analyze and comment on this report by March 1, 1992.

To respond adequately to the congressional mandate, the Commission has begun examining available data on outpatient services. In addition, ProPAC is looking at various payment policy options and is monitoring the Secretary's research. The Commission will analyze and comment on the Secretary's report in its March 1992 report. See Appendix A for more information.

Recommendation 7: Outpatient Payment Reform

The Commission believes that a prospective payment system for outpatient services should be developed. Outpatient facility payment reform should ultimately include all providers of outpatient services (such as hospitals, physicians' offices, and free-standing ambulatory surgery centers). As required by Congress, however, the Commission recognizes that outpatient payment reform will focus initially on the hospital outpatient setting.

Medicare Part B covers an array of outpatient services furnished by many facilities, practitioners, and suppliers. Among the various payment methods used are fee schedules, prospective amounts, blended rates, reasonable costs, and reasonable charges.

For most services, the physician furnishes the service directly or requests (orders) the service from a provider, supplier, or independent practitioner.

Payment to facilities generally covers only the facility or technical component of the service—supplies, materials, and nursing costs, for instance. Physicians or other practitioners usually bill for their professional service separately. Alternatively physicians, practitioners, or suppliers may bill for both the technical and professional component of the service.

The Commission believes that one major goal of outpatient payment reform is to create incentives for controlling total expenditures. Because most ambulatory care is provided outside of the hospital setting, ProPAC recommends that outpatient payment reform should eventually include all providers of ambulatory care, including physicians' offices and independent laboratories.

Although the reforms should be applied to all providers of outpatient services, the payment rate may vary among different providers. Costs may differ among similar providers (such as teaching versus non-teaching hospitals) and between different providers (such as hospitals and physicians' offices) for many reasons. These factors include differences in patient severity, teaching activities, and geographic location. The Commission believes it is desirable to adjust for some of these factors in the payment system, particularly those that represent a benefit to society and are beyond the provider's control. However, lack of available cost data for free-standing settings may complicate the determination of appropriate differences in payment rates. (See Recommendation 9.)

The payment system should also constrain costs in an appropriate manner. It should reward providers for delivering cost-effective quality care in the appropriate setting. A prospective payment method promotes incentives to deliver cost-effective care by allowing an opportunity for a profit as well as the risk of financial loss. However, the Commission realizes that various payment methods may be used during the transition to a fully prospective system.

Recommendation 8: Outpatient Facility and Physician Payment Reform

Outpatient payment reform for facility services should have incentives that are consistent with physician payment reform. Medicare financial incentives should not lead physicians or beneficiaries to inappropriately select one site of care over another.

The Commission believes that outpatient facility payment reform should contain incentives consistent with those of physician payment reform. Beginning in 1992, physicians will be paid using a resource-based fee schedule. This reform is designed to increase payment equity among physicians, constrain Medicare expenditures, protect beneficiaries' access to services, and promote predictability and administrative simplicity.

The three components of the fee schedule are physician work, practice expense, and malpractice expense. The Commission is interested primarily in the practice expense component, which includes costs like rent, salaries, equipment, and supplies. This component of the fee schedule covers services similar to those in the facility payment received by other providers of ambulatory services. The Commission plans to evaluate the findings from the study of practice expense being conducted by the Physician Payment Review Commission (PPRC). These data will be useful in ProPAC's analysis of comparability of costs across different providers.

The Commission believes physicians and beneficiaries should not have financial incentives to favor one site of care over another, but should choose the most medically appropriate site—whether care is provided in hospitals, free-standing ambulatory care settings, or physicians' offices. Applying the same prospective payment method to all outpatient services, regardless of setting, will achieve this goal.

Recommendation 9: Data Collection and Coding Requirements

Uniform coding and billing requirements should be implemented for all providers of outpatient care. These requirements should apply to the hospital outpatient setting, physicians' offices, and free-standing ambulatory care providers. In addition, a

mechanism for periodic collection of procedure-specific cost data in free-standing settings (including physicians' offices and ambulatory surgery centers) should be implemented.

To implement and maintain a prospective payment system across outpatient providers, comparable patient and financial data are needed. Under a prospective payment rate, three different comparisons must be made to determine the appropriate level of payment. These are comparisons among: (1) hospitals and other providers of ambulatory care (such as physicians' offices and free-standing ambulatory surgical centers); (2) geographic areas; and (3) hospital groups (including urban, rural, disproportionate share, and teaching.)

Currently, hospitals and free-standing providers are not required to follow the same coding and billing requirements. Physicians, suppliers, and other Part B providers, for example, were not required to report diagnoses until 1991. Further, hospitals are instructed not to use certain procedure modifiers. Finally, there are differences in how terms like principal diagnosis are defined across settings. Patients may have more complicating conditions in one setting compared with another. However, the lack of consistent coding makes it difficult to compare patient complexity across settings.

The Commission supports HCFA's efforts to establish a common working file. Coding and billing requirements should be standardized in this process. ProPAC believes that appropriate attention should be given to this issue and that the requirements should be uniform across all ambulatory care providers.

Further, cost data in free-standing settings are necessary to ensure that comparable financial incentives exist among providers. Data are not now available to compare the costs of ambulatory care across providers. Because most outpatient services are available in a variety of settings, the Commission believes that collection of non-hospital cost data is necessary to develop outpatient payment policy.

The Commission supports the research being conducted by PPRC. It is designed to collect direct

cost data for certain services provided in physicians' offices. These data will allow a limited comparison of service-specific costs of care between physicians' offices and hospital outpatient settings. A more systematic and comprehensive method for collecting additional non-hospital cost data should also be developed, however. The Secretary's survey of ambulatory surgery centers could serve as a model. The data collected should provide cost information by specific services or procedures. These data should be verified using a limited audit review. In the Commission's view, an annual cost report for all providers is neither necessary nor desirable. Further, given the large number of free-standing providers, a limited but representative sample would be adequate. ProPAC is willing to work with the Secretary on developing a method for collecting these data.

Recommendation 10: Medicare Volume Performance Standards

Services provided in the hospital outpatient setting should be included in the Medicare physician Volume Performance Standards (VPSs). Certain services (such as laboratory tests and therapy services) are currently included in the VPSs when provided in free-standing settings. Other services (including ambulatory surgery and durable medical equipment) are excluded. The Commission believes that hospital-provided services should also be incorporated in the VPSs to the extent that these services are included when provided in other settings.

Several of Medicare's current outpatient payment methods (such as blended rates and fee schedules) control the price of individual services. However, these payment methods fail to control the volume of services provided. The Commission believes that a policy to control inappropriate volume is warranted.

The Volume Performance Standards, enacted in OBRA 1989, provide an approach for controlling some Medicare Part B expenditures. The primary purpose of the VPSs is to provide a collective incentive for physicians to control the rate of increase in the volume and intensity of services provided to beneficiaries. The VPSs are designed to

give physicians incentives to order fewer tests and other procedures of limited value to the patient. Physicians are expected to limit the amount and types of services to those that are effective and appropriate.

Services that are commonly furnished by physicians or in physicians' offices and billed through the Part B carriers are included in the VPSs. Services provided in the hospital outpatient setting that are billed through the Part A intermediary are excluded because the intermediary does not collect service-specific data. To the extent that these services are included when provided in free-standing settings, they should also be included when provided by hospitals.

The Commission realizes that reductions in volume and intensity growth will be achieved gradually. To provide the appropriate incentives, the Secretary should collect service-specific data so that outpatient services provided in the hospital setting can be included in the VPSs. This change would prevent physicians from attempting to circumvent the objectives of the current VPSs. For example, hospital-provided outpatient laboratory services are not included in the VPSs. Therefore, physicians have an incentive to shift these services to the hospital setting. If these services were included in the VPSs, physicians would have the same incentive to control their use as they would to control the use of laboratory tests performed in their office or an independent laboratory.

Uncompensated Care

Many Americans lack health insurance or other means to cover the cost of medical care furnished by hospitals, physicians, and other providers. ProPAC is concerned about the effects of this problem, including the increasing financial burden faced by hospitals that treat the uninsured. The amount of uncompensated care hospitals provide has increased during the 1980s, and the number and variety of hospitals affected significantly by the cost of unpaid care have grown. The Commission believes that Congress should continue to consider methods to reduce the size of the uninsured population. Congress should also consider methods to assist hospitals directly with the uncompensated care problem.

Uncompensated care, which includes both charity care and bad debt, has long been an important health policy issue. Many financial management experts consider uncompensated care to be an expense that should be recognized in relating payments to costs. However, the Medicare and Medicaid programs have never paid for uncompensated care directly (other than to cover losses related to Medicare cost sharing requirements), and the courts have held that the Social Security Act forbids such direct payment. Nevertheless, the cost of furnishing services without payment can have a strong adverse impact on a hospital's financial condition, ultimately affecting its continued viability. The Federal government has a direct interest in the financial viability of hospitals, for it must protect access to care for Medicare beneficiaries and those eligible for Medicaid. The burden of uncompensated care has been considered, at least indirectly, in justifying the levels of the PPS indirect medical education adjustment and the disproportionate share adjustment for both Medicare and Medicaid.

Because non-Medicare uncompensated care costs have never played a formal role in Medicare payment, the Commission previously has not devoted a significant level of resources to addressing this issue. However, the OBRA 1990 conference report pinpointed uncompensated care as one of several areas for expanded ProPAC analysis. Specifically, the conferees stated that they "intend that ProPAC would include in its analysis and recommendations, proposals for changes in policies regarding: (1) payment of inner-city hospitals, including appropriate recognition of bad debt and charity care costs. . . ."

Uncompensated care costs have risen faster than overall hospital costs, while payments from state and local governments to offset these costs have failed to keep pace with hospital cost inflation. These two factors together have intensified the uncompensated care problem for the hospital industry. From 1980 through 1989, uncompensated care costs in PPS hospitals increased an average of 12.0 percent per year, nearly two full percentage points more than the rate at which total hospital costs have risen. Further, the portion of uncompensated care costs that is not offset by government subsidies increased even faster during this period — by 13.5 percent per year. In 1980, state and local

governments covered 29 percent of all uncompensated care costs, but this proportion had dropped to 20 percent by 1989.

Uncompensated care has traditionally been associated with large, inner-city teaching hospitals and with publicly owned institutions. But over the course of the last decade, the problem has increasingly affected the entire industry. Most importantly, uncompensated care is not only an urban problem. After offsetting government operating subsidies, uncompensated care commands the same proportion of hospital resources in rural areas as in urban areas. Public hospitals continue to provide the most uncompensated care, but the proportion of all unpaid care costs net of subsidy borne by these hospitals has declined from 27 percent in 1980 to 16 percent in 1989. Similarly, the proportion provided by major teaching hospitals has decreased from 23 percent to 18 percent, and the proportion for hospitals located in the central city portion of large metropolitan areas has fallen from 71 percent to 67 percent.

While charity care and bad debt have become a significant financial burden for a greater number and variety of hospitals, the amount of uncompensated care provided by individual hospitals varies within all of the standard hospital groups. There is substantial variation in the proportion of hospital resources devoted to uncompensated care in both urban and rural areas, among regions of the country, and among specific large cities and metropolitan areas. The distribution is equally widespread among both teaching and non-teaching hospitals, and even among government hospitals. This tremendous diversity complicates the task of addressing uncompensated care in payment policy.

When patients receive hospital services for which they cannot pay, the hospital must obtain funds to cover the cost of this care from other sources. Some of the possible sources—such as direct operating subsidies from state and local governments, philanthropy, and retained earnings from non-patient services—are appropriately applied to offsetting the cost of uncompensated care. But operating subsidies are not available to most hospitals, and as noted earlier, the amount of these subsidies has been declining in inflation-adjusted terms. Non-patient care income, while increasing

in recent years, has also been insufficient to cover burgeoning uncompensated care costs. Moreover, some of the hospitals providing the most uncompensated care have the least opportunity to supplement their revenue in this way.

Increasingly through the 1980s, hospitals have had to obtain funds to cover the cost of uncompensated care by raising their charges to privately insured patients. However, the hospitals with the highest uncompensated care loads, and thus the greatest need for supplementary revenue, often have few charge paying patients. Placing a heavy financial burden on these patients and their insurers is inequitable, fails to provide a reliable payment source, and risks further harming access to care for the nation's low-income population.

While the Medicare payment system was never intended to pay for charity care or bad debt, the indirect medical education and disproportionate share adjustments are commonly thought to be related to uncompensated care. The IME adjustment was designed to recognize the additional costs faced by teaching hospitals in treating Medicare patients, and the amount of payment received is determined by the hospital's ratio of interns and residents to beds. The DSH adjustment was intended to cover the effect that treating low-income patients has on average Medicare costs. Payment is based on two proxies for the hospital's total low-income patient load: the proportion of Medicaid patients and the proportion of Medicare patients receiving welfare payments under the SSI program. Over the last several years, however, these adjustments have increasingly been seen as serving broader social goals. The Commission believes that PPS payment rates do not need to be based strictly on Medicare costs. Nevertheless, the degree to which Medicare funds, which come primarily from a payroll tax, should be used for broader social purposes is limited.

ProPAC analyzed the relationship between the amount of uncompensated care hospitals provide and the payments they receive from the IME and DSH adjustments. The study found no relationship between uncompensated care costs and IME payments. The top 10 percent of PPS hospitals in terms of uncompensated care load together provide 27 percent of all unpaid care net of government subsidies, but receive only 9 percent of total IME payments. The bottom 10 percent provide less than

1 percent of all uncompensated care, and yet receive the same 9 percent share of total IME payments.

The hospitals with the highest uncompensated care rates do receive relatively high DSH payments. Those in the top 10 percent get about 20 percent of all DSH payments, compared with their 27 percent of the total uncompensated care cost load. Below the 90th percentile, however, there is only a limited relationship. The bottom 10 percent receive nearly 8 percent of all DSH payments, relative to their less than 1 percent of the uncompensated care burden. One implication of this finding is that a hospital's combined Medicaid and SSI patient load is generally a poor indicator of the amount of care it provides to non-paying patients.

While a hospital's uncompensated care burden is an important determinant of its overall financial position, the Commission believes it is not the only important factor. ProPAC plans to analyze the impact of Medicaid payment levels in the coming year, and is conducting a major study to identify the factors associated with financial performance under PPS. The Commission intends to continue its analysis of the relative effects of Medicare, Medicaid, and other payer payments, together with uncompensated care costs, on hospital financial condition.

OTHER ISSUES CONSIDERED BY THE COMMISSION

The Commission addressed two additional issues that may be the subject of future recommendations.

Medicare Transfer Payment Policy

The Commission is concerned that current Medicare payment policy may discourage appropriate hospital transfers. Over the past year, ProPAC examined several aspects of Medicare's transfer payment policy. The analyses raised a number of concerns about the financial risk a hospital assumes when it admits a transferred patient. In particular, transfer cases were twice as likely as other patients to become outlier cases. Nevertheless, total Medicare PPS payments to hospitals that received a high proportion of transfers appear to be sufficient. The Commission is concerned, however, that the financial risk posed by transfer cases may discourage hospitals from accepting transfers.

ProPAC plans to continue to examine this issue and its relationship to outlier cases over the coming year.

The Commission is also concerned about the adequacy of the current per diem payment for the transferring hospital. Recent analysis shows that payments are significantly lower than costs for these cases. The Commission plans to examine this issue in more detail over the coming year.

In addition, ProPAC is concerned that current payment policy discourages transferring patients to their local communities for recovery. Under current transfer payment policy, hospitals that transfer patients receive a per diem payment up to the full DRG amount. The final discharging hospitals are the only hospitals that automatically receive a full DRG payment. Further, transfer cases are subject to review by Peer Review Organizations. Hospitals that treat transfer cases or other complex cases have little incentive to transfer patients to local hospitals. As a result, few Medicare patients are transferred to their local community for convalescence when this may be appropriate. This issue will also be investigated in the coming year.

Payments for Intractable Epilepsy

In 1987, the Commission addressed the adequacy of PPS payment for intractable epilepsy patients treated with intensive neurodiagnostic

monitoring. ProPAC also addressed the adequacy of payments based on one surgical procedure when multiple procedures were performed during an admission. This analysis examined two medical and one surgical DRGs.

At the time of the Commission's analysis, only three centers were found to provide specialized care for the treatment of intractable epilepsy. Operating costs exceeded payments in each of the three DRGs at these centers more than they exceeded payments at other PPS hospitals. Within these DRGs, losses were larger for patients with epilepsy than for other patients in all hospitals. A more complete analysis of this topic was not possible because of the lack of specific codes to identify patients with intractable epilepsy. These codes were implemented in fiscal year 1990.

The National Association of Epilepsy Centers' recent study of several of its members found that costs exceeded payments for patients with epilepsy in two medical DRGs. Intractable epilepsy cases that required monitoring had greater cost to payment differences and longer than average lengths of stay.

ProPAC will reexamine this issue when fiscal year 1990 data become available. The Commission believes the Secretary should also evaluate the appropriateness of PPS payment for Medicare beneficiaries with intractable epilepsy.

Appendixes



Appendix A. Background Material and Analyses

Appendix A provides background material and analyses to support some of the recommendations in this report. Technical materials on the market basket and the discretionary adjustment factor for the prospective payment system (PPS) and PPS-excluded hospitals will be found here. Background analysis of case-mix change and the indirect medical education adjustment are also presented. In

addition, further detail is provided on PPS-excluded facilities and outpatient payment reform. Further analysis supporting Commission decision making is available through the Prospective Payment Assessment Commission's (ProPAC) Technical Report Series. A complete list of these reports, which can be obtained by contacting the Commission, appears in Appendix B.

PPS MARKET BASKET FORECAST AND ERROR CORRECTION

The PPS market basket forecast and the error correction factor are two components in the Commission's update framework. The following discusses the Commission's analysis of each component.

The PPS Hospital Market Basket

The PPS hospital market basket measures the average change in the price of goods and services hospitals purchase to provide inpatient care. The projected change in the market basket is an integral component of the Commission's update factor recommendation. The Health Care Financing Administration (HCFA) and ProPAC have different versions of the PPS market basket. HCFA's version is currently projected to increase by 4.8 percent in fiscal year 1992, while ProPAC's market basket is projected to increase by 5.0 percent.

The PPS hospital market basket consists of 28 components reflecting the full range of goods and services that hospitals purchase. Each component has a weight that represents its proportion of total hospital expenses. Because the actual changes in individual prices are unobservable, the change in the price of each component is measured by a price proxy. All but one of the price proxies used in the market basket are based on price indexes published by the Bureau of Labor Statistics.

In 1989 and 1990, the Commission recommended changing certain aspects of the PPS market basket. The recommendation focused on how price changes in employee wages and benefits should be measured. The Commission's recommendation dealt specifically with market basket wage and benefit price proxies. The Commission recommended increasing the weight of the internal hospital industry wage and benefit price proxy. In addition, the Commission recommended that the Employment Cost Index (ECI) for hospital workers should replace the Average Hourly Earnings for nonsupervisory hospital workers as the internal hospital industry wage price proxy.

HCFA accepted many of the Commission's recommendations concerning the hospital market basket when it rebased the market basket in 1990. However, HCFA did not adopt the Commission's

position on weighting the hospital industry wage and benefit price proxy.

ProPAC's version of the market basket applies the internal hospital industry wage price proxy to half the weight given to all wages and benefits in the market basket. HCFA's version applies only the internal wage price proxy to half the weight given to professional and technical workers' wages. The professional and technical workers component comprises about 60 percent of all wages and benefits. Therefore, the net effect is that internal wages make up only about 30 percent of the wage portion in the HCFA market basket, compared with 50 percent of the ProPAC version.

Further, the Commission believes that HCFA's version of the market basket understates how changes in professional and technical workers' wages affect the market basket. The hospital industry wage price proxy, the ECI for hospital workers, measures changes in wages for all hospital employees, including secretaries and service workers. Thus, under HCFA's version of the market basket, changes in professional and technical workers' wages are measured using not only professional and technical workers' wages but also the wages of other workers. ProPAC believes this construction is incorrect, since the price proxies used by HCFA generally understate how changes in professional and technical workers' wages affect the market basket.

The forecasts for each price proxy are based on complex statistical models that rely on past and current economic information. Since 1979, Data Resources, Inc. (DRI) has been under contract to HCFA to forecast changes in the hospital market basket. HCFA has used these forecasts to update PPS payments rates. ProPAC has also used them in making its update factor recommendation.

DRI updates its PPS market basket forecasts every three months. ProPAC uses the most recently available forecast in making its update recommendation. The market basket forecast for fiscal year 1992, used in this report, was prepared in December 1990.

Forecast Error Correction

Regardless of the method used to forecast inflation in the market basket, errors that might

have major financial consequences for hospitals or the Federal government are bound to occur. The forecast error correction factor has been an important part of the Commission's update framework.

In 1990, the Commission modified how it corrects for errors in market basket forecasts used to update previous payment rates. Until last year, the forecast error correction was based on a revised forecast of the previous year's market basket. It is now based on actual market basket data for each year, available at the end of that year. Because the Commission now waits for actual end-of-year data, market basket forecast errors are corrected with a two-year lag. The Commission's 1992 update recommendation incorporates the forecast error in the market basket used to update fiscal year 1990 payment rates.

Another change in the Commission's methodology is that forecast errors in all components of the market basket are considered. Previously, the Commission considered forecast errors only in components of the market basket external to the hospital industry.

The Commission believes that only substantial forecast errors—those that equal or exceed 0.25 percentage points—should be corrected.

The market basket forecast used to calculate the update factor for fiscal year 1990 payment rates was 5.5 percent. The actual increase in the fiscal year 1990 market basket was 4.5 percent. The Commission's 1992 update recommendation therefore includes a market basket forecast error correction factor of -1.0 percentage points.

The largest contributor to the fiscal year 1990 forecast error was a lower than expected increase in wages. Wages were projected to rise by 5.7 percent, but actually grew only by 4.7 percent. This accounted for almost 0.6 percentage points in the forecast error. In addition, changes substantially lower than forecast in the price of chemicals, rubbers and plastics, and malpractice insurance premiums contributed significantly to the total forecast error.

The Commission's market basket forecast error correction factor is an important part of the Commission's update framework. The correction factor removes the effect of unintended errors from the base of future payments. This protects both hospitals and the Federal government from the long-term effects of forecast errors on the base payment rates.

THE DISCRETIONARY ADJUSTMENT FACTOR FOR PPS HOSPITALS

The discretionary adjustment factor (DAF) is composed of the scientific and technological advancement allowance and the productivity improvement adjustment. In developing the DAF recommendation, the Commission is concerned with determining the appropriate effects of technological advancement and productivity change on Medicare payments to hospitals. Both DAF components are future-oriented policy targets.

ProPAC's recommendations are based in part on estimates of past productivity change and projections of the cost of technological advances for PPS hospitals. In the following sections, the two components of the DAF, along with the methodology and results of ProPAC's analyses, are discussed in greater detail. In the final section, the Commission's DAF decision for fiscal year 1992 is summarized.

Scientific and Technological Advancement in PPS Hospitals

The scientific and technological advancement allowance reflects expected increases in hospitals' Medicare inpatient operating costs due to advances in technology. It represents the Commission's judgment about the appropriate level of financing for scientific advances in fiscal year 1992.

Concepts and Study Methodology—The allowance is based on estimates of the incremental costs of care attributable to cost-increasing, quality-enhancing technologies. In arriving at a judgment regarding the allowance, the Commission distinguishes between existing cases and new cases. Only the costs associated with existing cases are included in the allowance. These are admissions that would have occurred even if a new technology were not available. The costs associated with new cases, or patients admitted solely because a new technology is available, are not included because they generate a full payment. In addition, other costs associated with increases in case complexity due to the use of new technologies are accounted for in the case-mix index change component of the update factor.

Project HOPE, under contract to the Commission, estimated the incremental costs of cost-increasing, quality-enhancing technologies. The primary sources of information for this study were medical and health policy literature, telephone interviews with medical and industry experts, and consultations with technology experts. Project HOPE estimated the impact on fiscal year 1992 Medicare costs using projections of the number of existing cases and the incremental operating costs per case for each technology.

All of the technologies included in the estimate of the allowance met four criteria. First, the technology should have a significant effect on Medicare operating costs. Second, it should be at least 5 percent diffused in the Medicare population. Third, it should be no more than 75 percent diffused in the Medicare population. Finally, the technology should be safe and effective.

Methodology Limitations—The estimates described above are subject to several limitations. They do not capture all relevant costs: for example, costs from improvements in widely diffused technologies, the adoption of low-cost technologies, and subtle changes in practice patterns are not measured. In addition, the estimates reflect only technologies adopted systemwide, and are based on projections of costs and future rates of adoption and use. Finally, the estimates do not account for offsetting changes in revenue due to changes in diagnosis-related group (DRG) assignment. Despite these limitations, the Commission has found this technology-specific approach useful for deriving more informed estimates of the costs of scientific and technological advances.

Study Results—Project HOPE identified 16 cost-increasing, quality-enhancing technologies to include in the allowance. The estimated incremental impact of these technologies on inpatient operating costs ranges from \$224 million to \$515 million, with a best estimate of \$366 million. Based on the best estimate of incremental costs in fiscal year 1992, Medicare inpatient operating payments would have to increase by approximately 0.7 percent.

Table A-1 shows the incremental cost estimates from existing cases for each cost-increasing technology. Monoclonal antibodies used to treat sepsis

and implantable defibrillators have the largest estimates of additional costs. Thrombolytic agents and the low osmolar and nonionic contrast agents are the next two largest estimates.

For purposes of comparison, in 1990, 21 cost-increasing technologies were studied with estimated incremental costs of \$312 million in fiscal year 1991. This would have resulted in a 0.7 percent increase in Medicare inpatient operating payments.

Productivity Change in PPS Hospitals

The productivity adjustment for PPS hospitals represents the savings anticipated from achieving a

productivity goal set by the Commission. It accounts for the productivity improvement resulting from the PPS incentive to reduce the cost of resources used to treat patients. Past productivity trends serve as a guidepost in the Commission's determination of a productivity target for the future.

Productivity Concepts and Study Methodology—Productivity is defined as the ratio of outputs to inputs. Increased productivity implies that the hospital is either producing more output with the same resources, or the same output with fewer resources.

The Commission uses number of full-time equivalent (FTE) employees as its input measure.

Table A-1. Estimated Fiscal Year 1992 Incremental Medicare Cost Impact of Cost-Increasing Technologies in Existing Cases in PPS Hospitals

Technology	Amount (In Millions)		
	Low	High	Best
Atherectomy	\$ 0.5	\$ 0.7	\$ 0.6
Customized orthopedic prosthetics	0.8	1.9	1.4
Electrophysiologic studies	11.3	22.5	16.9
Implantable defibrillators	65.0	127.1	96.0
Lead replacements	7.2	18.4	12.8
Implantable infusion pumps	1.8	3.5	2.7
Laser angioplasty	3.7	6.8	5.3
Low osmolar and nonionic contrast agents	5.3	37.1	21.1
Magnetic resonance imaging	8.2	15.1	11.7
Monoclonal antibodies for sepsis	45.0	150.0	97.5
Pacemakers (advances)	15.2	19.1	17.1
Percutaneous transluminal angioplasty	1.7	3.3	2.5
Percutaneous transluminal coronary angioplasty	20.6	28.5	20.6
Positron emission tomography	5.8	16.2	11.0
Single photon emission computed tomography	2.1	15.1	11.7
Thrombolytic agents	27.5	36.3	31.9
Ultrasound (advances)	2.4	4.3	3.4
Total	224.1	515.1	365.8

SOURCE: Project HOPE under contract to ProPAC.

Traditionally, it has defined output as the number of admissions, with an adjustment for real case-mix change. The resulting productivity measure of FTEs per admission implicitly assumes that hospital services are inputs contributing to the quality of the final output, a completed admission.

The Commission has developed two additional measures that permit the changes in aggregate productivity to be scrutinized in more detail. The first measure, which ProPAC calls intermediate productivity, provides information regarding the efficiency of hospitals in producing intermediate services (such as laboratory tests, surgeries, and days of nursing care).

The second measure examines changes in the number and type of intermediate services that hospitals produce, after controlling for changes in the complexity of patients treated. These case-mix constant service increases can be reflected in longer lengths of stay, greater use of existing technology, or the adoption of expensive new technology to provide service add-ons or substitute for less complex procedures.

ProPAC believes that the intermediate productivity measure based on services as the output of hospitals is useful in assessing overall industry productivity. It also helps in understanding the continued hospital cost inflation of the 1980s. For purposes of setting the DAF, however, the Commission relies on the aggregate productivity measure. Because this measure is based on admissions as the output of hospitals, it complements the Commission's cost per admission calculations, as well as the case-based payment of PPS. Moreover, the Commission is not confident that all recently observed increases in intensity of services were critical to the quality of care or improved outcomes, as would be implied by using the intermediate productivity measure for the DAF.

For the intermediate productivity and intensity of services measures, the relative value of the various service units hospitals produce was measured by their posted charges, with an adjustment to remove the effects of year-to-year price changes. Hospital price changes were represented by the hospitals and related services component of the Consumer Price Index (CPI). Data for measuring the number of hospital admissions, FTEs, and total

charges were obtained from the American Hospital Association (AHA) Annual Survey, while the case-mix change data are ProPAC estimates.

Methodology Limitations—The Commission's productivity measurements are subject to several limitations. The Commission has taken these limitations into account in assessing the industry productivity trend and forming expectations for future productivity performance.

Two conceptual problems with the analysis are that: (1) the FTEs measure does not reflect the contribution of capital or other non-labor inputs, and (2) it is impossible to account fully for quality enhancements in the hospital product. These problems are not unique. The vast majority of analyses within the health care field and in other industries use only labor input measures. And virtually all productivity analyses suffer to one degree or another from the inability to measure quality improvements.

There are two constraints on the accuracy of the data on FTEs. First, the data do not include contract labor. Use of contract labor has probably increased in recent years. If this is true, measurement of the increase in FTEs is understated, which in turn overstates productivity improvement or understates productivity decline. Second, the Annual Survey reports FTEs employed on the last day of the year, which is not necessarily an accurate reflection of the labor hours used throughout the year.

Using the Commission's real case-mix change estimates to adjust admissions required that Medicare data be extrapolated to the entire population. No information is available to test the validity of the assumption that case-mix change has been comparable for the over- and under-65 populations.

The accuracy of ProPAC's intermediate productivity and intensity of services measures depends on two factors. The first is how well hospital charges reflect the costs of individual service units. The analysis addresses only the change in hospital output. But hospitals raising prices differentially for marketing or other reasons will create a bias. The extent of the problem is unknown, just as the effect of differential pricing on the charge-based DRG weights is unknown.

Table A-2. Change in Aggregate Productivity and Its Component Measures

Year	Adjusted Admissions ^a	Case-Mix Adjusted Admissions ^a	Total Service Output	Full-Time Equivalent Employees ^b	Aggregate Productivity ^c	Case-Mix Constant Intensity	Intermediate Productivity ^d
1981	0.4%	1.4%	2.6%	4.4%	-3.0%	2.6%	-0.4%
1982	0.6	1.6	1.8	2.4	-0.9	1.8	0.9
1983	-0.5	0.5	2.3	0.4	0.1	2.3	2.4
1984	-1.4	0.8	-2.6	-1.8	2.7	-2.6	0.1
1985	-2.3	0.1	-2.2	-0.5	0.6	-2.2	-1.6
1986	-1.0	1.1	2.4	2.1	-1.0	2.4	1.5
1987	-0.5	1.3	2.5	3.0	-1.7	2.5	0.8
1988	1.2	3.1	1.6	2.7	0.4	1.6	2.0
1989	0.5	2.3	0.8	3.0	-0.7	0.8	0.2

^a Adjusted for outpatient activity.

^b Adjusted for skill-mix change.

^c Defined as case-mix adjusted admissions per FTE.

^d Defined as total service output per FTE.

SOURCE: ProPAC (for the real case-mix change estimates), hospitals and related services component of the Consumer Price Index (for total service output), and the American Hospital Association Annual Survey.

The second factor is how well the hospital component of the CPI reflects hospital price increases. A favorable feature of the hospital CPI for this analysis is that it is based on the same data source as total charges—hospitals' posted prices. In addition, a broad array of hospital services is represented in the index, using a random selection technique that ensures representativeness. Finally, the weights used for aggregating the price increases of individual service units are updated regularly.

Study Results—Table A-2 shows the trend in aggregate productivity, or case-mix adjusted admissions per FTE. Before PPS was introduced, increases in the number of employees outpaced admissions growth, resulting in declining productivity. This decline ended in 1983, however, in response to the incentives of the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) and, possibly, in anticipation of PPS.

In the first two years of PPS, hospitals were uncertain about the consequences of prospective payment and responded strongly to its incentives. Even in the face of declining admissions, the work force was reduced enough to produce a 2.7 percent increase in aggregate productivity in 1984, followed by a further improvement of 0.6 percent in 1985.

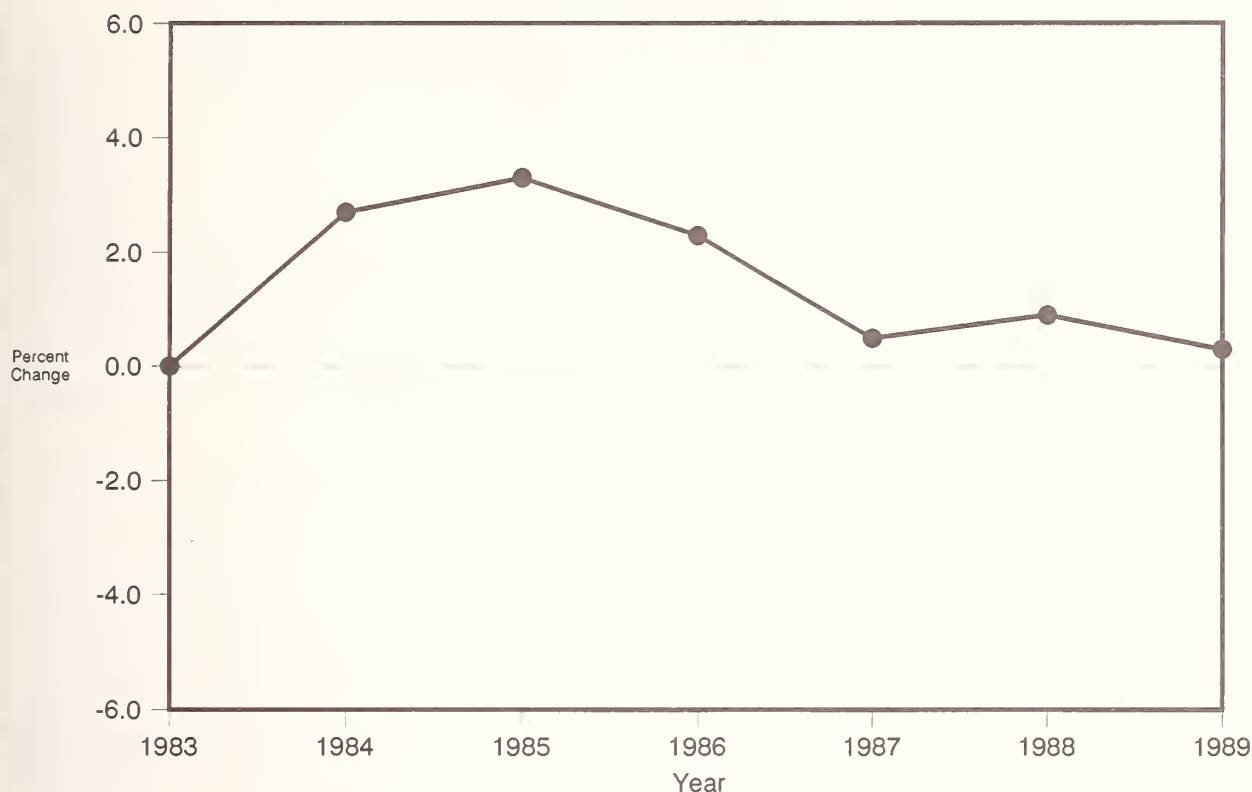
In the next two years, however, hospitals were bolstered by high early PPS margins. During this period, hospitals expanded their work force to more than erase the previous reductions, even as admissions continued to decrease. Consequently, aggregate productivity once again declined.

More recently, PPS margins have fallen considerably from their 1985 high point. This factor, coupled with an upturn in admissions, resulted in a small productivity improvement (0.4 percent) in 1988 and a small decline (0.7 percent) in 1989. It is possible that 1988 could represent the beginning of a period of stability in aggregate productivity. Hospital admissions are projected to continue increasing, and with hospitals experiencing extensive financial pressure, they are unlikely to respond with either significant increases in the number of workers or growth in employee skill mix.

Over the first six years of PPS, aggregate productivity has increased by a cumulative 0.3 percent (see Figure A-1). This small net change is the result of the significant increase of 1984 and 1985, the significant decline of 1986 and 1987, and the relative stability of 1988 and 1989.

Table A-2 also presents the trend in case-mix constant intensity of services (services per admission) and intermediate productivity (services per

Figure A-1. Cumulative Change in Aggregate Productivity, 1983-1989



Note: Aggregate productivity defined as the ratio of admissions to FTE employees. Admissions adjusted for outpatient activity and real case-mix change, and FTEs are adjusted for skill-mix change.

SOURCE: ProPAC estimates (for case-mix adjustment) and the American Hospital Association Annual Survey.

FTE). Intensity of services grew rapidly in 1981 and 1982. While hospitals became slightly more efficient in their production of intermediate services during this period, the net effect of the increased intensity was to lower overall productivity.

Under TEFRA, hospitals nearly stopped hiring new personnel while service intensity continued to increase. This resulted in a 2.4 percent improvement in intermediate productivity. As part of the initial response to prospective payment, however, hospitals reduced intensity of services significantly. Even though the number of employees was cut back during this period, this sharp reduction in intensity resulted in fewer services produced per FTE.

In 1986 and 1987, service intensity rose faster than the number of FTEs, once again raising intermediate productivity. Finally, intensity growth moderated in 1988 and 1989 while intermediate

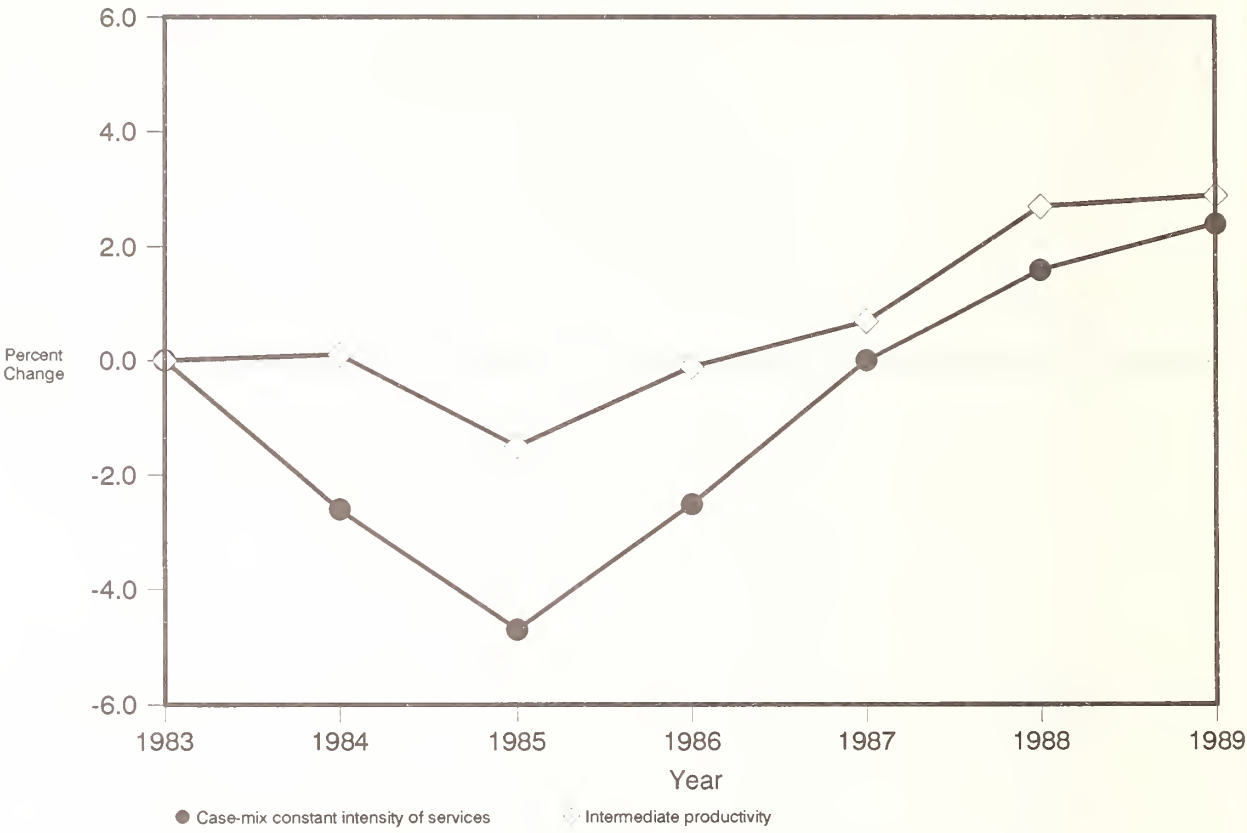
productivity continued its upward climb, providing further evidence that the industry might be starting a trend of stable or improved overall productivity.

Since PPS has been in effect, cumulative growth in intermediate productivity has narrowly exceeded cumulative growth in case-mix constant intensity of services (see Figure A-2). The small difference between these two outcomes produced the net improvement in aggregate productivity of 0.3 percent cited earlier.

The Commission's DAF Decision

The Commission has concluded that reasonable ranges of the positive scientific and technological advancement allowance and the negative productivity improvement adjustment net to 0.2 percentage points. This is based on a 0.7 percentage point scientific and technological advancement allowance and a -0.5 percentage point productivity

Figure A-2. Cumulative Change in Case-Mix Constant Intensity of Services and Intermediate Productivity, 1983-1989



Note: Intermediate productivity is defined as the ratio of services to FTE employees. FTEs are adjusted for skill-mix change.
SOURCE: American Hospital Association Annual Survey and the Hospitals and Related Services Component of the Consumer Price Index.

adjustment. It is ProPAC's policy that savings from productivity gains should be shared equally by the Medicare program and hospitals. Therefore, the Commission believes that half the achievable productivity gains will be adequate to cover most, but not all, of the incremental costs of new technological

improvements. The remaining costs should be financed through the discretionary adjustment factor in the update. The Commission continues to believe that the DAF should give hospitals an incentive to strive for productivity improvements as they adopt quality-enhancing technologies.

CASE-MIX CHANGE

The DRG case-mix index (CMI) is the average DRG weight for all cases paid under PPS. Because the DRG weight determines the PPS payment for each case, any increase in the CMI results in a corresponding increase in hospital payments. The CMI may increase because of real case-mix change or because of upcoding. Real case-mix change is defined as changes in patient resource requirements caused by changes in the mix of patients or their treatments. Upcoding is defined as changes in medical record documentation or coding practices that result in assignment of cases to higher-weighted DRGs.

The Commission makes a case-mix adjustment to the annual update factor for two reasons. On the one hand, upcoding results in a higher CMI, but does not reflect changes in patient resource requirements. Therefore, it is not appropriate for hospital base payment rates to reflect this portion of CMI change. On the other hand, the CMI does not entirely capture changes in resource requirements resulting from increases in patient complexity within DRGs. ProPAC believes that hospitals should also be compensated for this unmeasured portion of real case-mix change, referred to as within-DRG case-complexity change.

For several years, the Commission has been working to develop better methods of measuring the components of case-mix change. This has been difficult because changes in patient mix frequently are indistinguishable from changes in coding. The task was complicated further in 1991 because a study previously used to estimate real case-mix change was discontinued due to data limitations. Therefore, the case-mix change recommendation is largely based on analysis of past data and Commission judgment.

The methods used by the Commission in 1991 to estimate each case-mix change component and to arrive at its final recommendation are described below.

Case-Mix Index Change

Since the beginning of PPS, year-to-year CMI change generally has declined. The trend is illustrated in Figure A-3. In 1988, however, the CMI increased 3.6 percent, interrupting the downward trend. This relatively large increase was primarily

due to two changes in the DRG Grouper (the software that HCFA uses to assign cases to DRGs). Age was eliminated as a DRG classification criterion, and two heavily weighted DRGs were created that included mechanical ventilation and tracheostomy as classification criteria. Both of these changes provided hospitals with incentives to further improve their medical record documentation practices.

Without additional Grouper changes, the Commission expects that CMI change will gradually decline to a steady-state level. The data for 1989 and preliminary data for 1990 confirm this expectation, with CMI change falling to 2.8 percent and 2.5 percent, respectively. Grouper changes enacted in fiscal year 1991, however, are expected to provide additional opportunities for upcoding. Based on analysis of previous CMI trends, ProPAC projects that instead of declining, CMI change will again be 2.5 percent in 1991.

Real Case-Mix Index Change

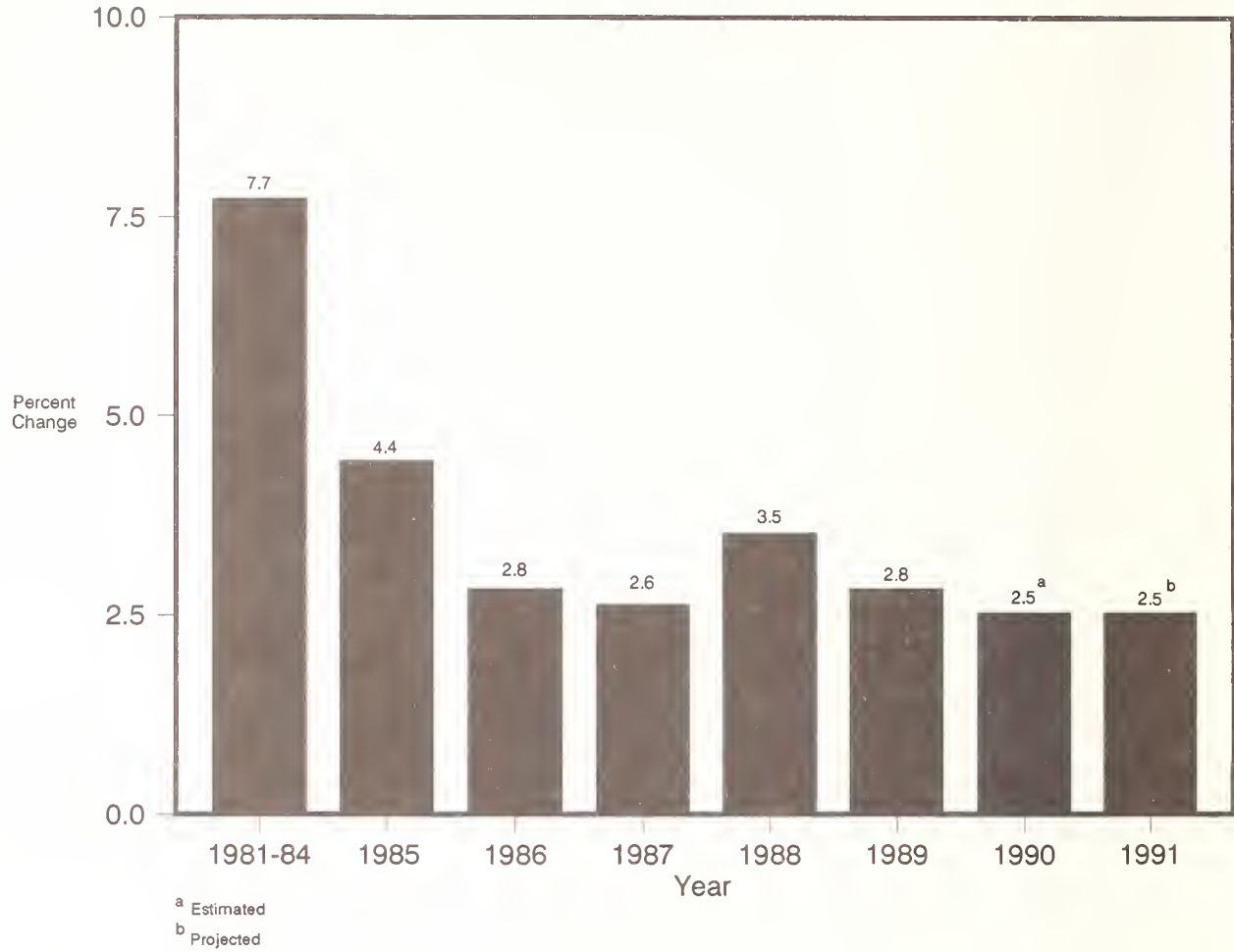
The Commission believes that as the total amount of CMI change declines, the proportion that reflects real changes in patient care requirements increases. In the past, ProPAC's estimates of real CMI change have been built on this logic, along with empirical evidence provided by a major study of real case-mix change.

That study, conducted by the RAND Corporation for HCFA with support from ProPAC, involved reabstracting medical records and comparing the originally coded data with the recoded data. This methodology allowed apportionment of CMI change into real and upcoding components.

This year the RAND study was not conducted because a suitable database could not be obtained. The data source used previously, medical records collected by the SuperPRO for use in evaluating Peer Review Organizations, no longer provides a representative sample of PPS cases. Since an empirical study of CMI change was not conducted in 1991, the Commission's estimate of real CMI change was based primarily on analysis of coding and case-mix trends and Grouper changes.

As noted, recent changes to the DRG system may provide additional opportunities for upcoding. In fiscal year 1991, highly weighted tracheostomy,

Figure A-3. Annual Case-Mix Index Change, 1984-1991



SOURCE: ProPAC analysis of MedPAR data from the Health Care Financing Administration.

liver transplant, and bone marrow transplant DRGs were created. However, these changes involve fewer cases and are expected to have less impact on the case-mix index than the changes enacted in 1988.

Analysis of coding trends provides evidence that hospitals not only document the medical conditions of their patients more fully than in past years, but also target their coding practices to maximize reimbursement. For example, from 1986 to 1989, the percentage of discharges for which at least one secondary diagnosis was coded increased from 90 percent to 94 percent. Over the same period, the percentage of discharges for which a complication or comorbidity was coded, resulting in the placement of patients in higher-weighted DRGs than

other patients with the same principal diagnosis, increased from 64 percent to 74 percent.

The Commission estimated that 50 percent and 55 percent of total CMI change in 1989 and 1990, respectively, was due to real case-mix change. In 1991, the Commission estimates that about one-half of total CMI change, or 1.3 percentage points, will represent real changes in patient resource use.

Within-DRG Case-Complexity Change

For the past three years, the Commission's estimates of case-complexity change have been based on an analysis by SysteMetrics/McGraw-Hill, Inc. The contractor developed a database using a 10

percent stratified random sample of PPS hospitals. For this set of hospitals, all discharge records were obtained from fiscal years 1987 through 1989. Two alternative patient classification systems, Disease Staging and Patient Management Categories (PMCs), were used to measure changes in patient complexity.

After cases were assigned to DRGs, they were classified both by Disease Staging and by PMCs. This permitted measuring increases in complexity by both classification systems, while holding DRG constant. With this methodology, the contractor developed two trend estimates of case-complexity change. Using both Disease Staging and PMCs, case-complexity increased 0.8 percent in 1988 and 0.3 percent in 1989.

Case complexity may increase because the patient has a more severe principal diagnosis or condition, or more complications or comorbidities. Increases due to either factor may reflect real change or simply changes in medical record coding practices. Estimates of case-complexity change based on Disease Staging are more subject to upcoding than those based on PMCs because Disease Staging incorporates information on more diagnoses and procedures.

The reduction in within-DRG case-complexity change from 1988 to 1989 may be the result of three factors. First, DRG refinements may have reduced the variation in patient complexity within DRGs. Second, the shift of less complex cases to the outpatient setting has slowed, resulting in lower levels of case-complexity change for hospitalized patients. Finally, hospitals may be reaching the upper limits of their upcoding potential.

Based on these considerations, the Commission judges that the appropriate estimate of within-DRG case-complexity change for 1991 is 0.2 percent.

Future Analyses

Case-mix index change continues to be a major source of payment increases to hospitals. The Commission's methods for differentiating real case-mix change from upcoding have improved significantly over the past few years, but the data needed for a reabstraction study are no longer available. ProPAC will be glad to work with HCFA to obtain the needed data sources and to investigate the reasons for case-mix change.



THE INDIRECT MEDICAL EDUCATION AND DISPROPORTIONATE SHARE ADJUSTMENTS

ProPAC's activities include the analysis of adjustments to Medicare payment rates received by hospitals under PPS. Currently, adjustments are made to recognize the indirect costs of graduate medical education programs and the additional costs faced by hospitals that treat a disproportionate share of low-income patients. The Commission's recommendation and comments in this report are based on an analysis of the appropriate level of these adjustments, the way that they are incorporated into the payment system, and their impact on hospital performance under PPS. This analysis is described below.

The adjustment for indirect medical education (IME) costs is based on the intensity of teaching activity. The measure of intensity used in PPS is based on the hospital's ratio of interns and residents per bed. Currently, the IME adjustment is roughly 7.7 percent for every 10 percent increment in teaching intensity.

For several years, including fiscal year 1991, the Secretary of Health and Human Services has recommended a reduction in the IME adjustment to 4.05 percent. In ProPAC's March 1990 report, the Commission recommended a reduction to 6.8 percent, stating its intention to continue the analysis of PPS payments to teaching hospitals.

The disproportionate share (DSH) adjustment is based on the hospital's low-income share, which is equal to the sum of two proportions: the proportion of patient days accounted for by Medicaid patients and the proportion of Medicare patient days accounted for by patients who also receive Supplemental Security Income payments.

In the Omnibus Reconciliation Act (OBRA) of 1989, Congress substantially changed the criteria for qualifying as a disproportionate share hospital and the formula on which the DSH adjustment is based. These changes increased both the number of hospitals qualifying for the DSH adjustment—particularly in rural areas—and the size of the adjustment received by many hospitals. In OBRA 1990, Congress again substantially increased the size of the DSH adjustment, primarily for hospitals in urban areas.

An estimated \$2.5 billion in PPS payments were made through the IME adjustment in fiscal year 1990. Approximately 60 percent of those dollars went to major teaching hospitals, which comprise only about 20 percent of all teaching hospitals and only 4 percent of all hospitals. Teaching hospitals—particularly major teaching hospitals—have much higher PPS margins than non-teaching hospitals. However, major teaching hospitals have lower total margins than other hospital groups.

The DSH adjustment accounted for about \$1.6 billion during fiscal year 1990. This amount should increase sharply in fiscal year 1991, due to the changes made by OBRA 1990. PPS margins for disproportionate share hospitals are much higher than those for non-disproportionate share hospitals. However, total margins for disproportionate share hospitals are lower.

There is a great deal of overlap between the IME and DSH adjustments. Disproportionate share hospitals receive almost two-thirds of IME payments, while more than two-thirds of DSH payments go to teaching hospitals. This pattern of payments reflects similarities in the objectives of the two adjustments, both of which have been used to provide Federal support for the continued access of Medicare beneficiaries and others to hospitals with unique roles in the provision of health care.

The analysis of the IME and DSH adjustments involves five basic questions:

- Which hospitals is each adjustment intended to help?
- How can these hospitals be identified?
- What is the appropriate level of the adjustment?
- What is the impact on the distribution of PPS payments?
- What is the impact on the performance of the hospitals that the adjustment was intended to help?

ProPAC has examined several of these issues. These ongoing studies are intended to provide information for developing recommendations to improve the equity of PPS payments and ensure the

access of Medicare beneficiaries to high-quality health care. The current status of these analyses is described below.

Teaching Intensity and Medicare Operating Costs

In each of the past few years, ProPAC has analyzed the relationship between teaching intensity and Medicare operating costs. This analysis is based on the most recent available Medicare Cost Report data and the PPS payment rules for the current Federal fiscal year. The analysis for this report is based on cost data from the fifth year of PPS and fiscal year 1991 payment rules.

For this analysis, Medicare operating costs per discharge are calculated for each hospital and adjusted for the effect of factors (other than teaching intensity) that have been incorporated into the payment system. These factors include: geographic differences in the PPS base payment amounts, the local area wage index, the hospital's Medicare case-mix index, the DSH adjustment, and outlier payments. The resulting payment-adjusted Medicare operating costs per discharge indicate the difference in costliness across hospitals, holding differences in payment factors (except for the IME adjustment) constant.

A univariate regression model is then constructed to estimate the relationship between payment-adjusted costs and teaching intensity. This model is structured so that the results indicate the percentage difference in the cost variable associated with each 10 percent difference in the teaching intensity variable. Another way to interpret this model is as indicating the IME adjustment that would result in the best fit between the patterns of PPS payments and PPS costs across hospitals, subject to the current values of the other PPS payment factors.

The most recent ProPAC analysis indicates that a 10 percent difference in teaching intensity is associated with a 2.1 percent difference in Medicare operating costs per discharge.

To determine the effect of teaching intensity on costs, separate from the influence of DSH payments, ProPAC also estimated the same relationship without adjusting for these payments. This reflects the Commission's determination that the

IME and DSH adjustments have essentially different policy objectives, despite the substantial overlap between them.

The result of omitting the DSH adjustment from the analysis was to increase the estimated effect of teaching intensity to 4.2 percent. Comparing this estimate to that obtained when the DSH adjustment is included indicates that DSH payments account for about half of the difference in costs that would otherwise be attributed to teaching intensity.

Alternative Specifications of Teaching Intensity

ProPAC also has considered different ways to specify the relationship between teaching intensity and Medicare costs. The results of the analysis described above are based on the assumption that this relationship is the same regardless of the hospital's teaching intensity. However, if the relationship is different for hospitals with more intensive teaching programs than for those with less, it might be possible to improve the distribution of IME payments by having different IME adjustments for different groups of teaching hospitals.

To further examine this issue, ProPAC analyzed the residuals from each of the regressions described above. However, none of the residuals was found to be significantly different from zero, indicating no systematic under- or overpayment among groups of teaching hospitals under the current structure.

There still are indications, however, that different groups of teaching hospitals may have very different characteristics and operate in very different environments. Moreover, there are alternative ways to measure teaching intensity that might improve the distribution of IME payments. In the coming year, ProPAC will continue to investigate refinements in the specification of the relationship between teaching intensity and Medicare costs, including alternative measures of teaching intensity.

Disproportionate Share Status and Medicare Operating Costs

ProPAC also examined the relationship between disproportionate share status and Medicare operating costs. A regression similar to the one used to

estimate the effect of teaching intensity was modified to include disproportionate share status as an explanatory factor. This factor was defined according to the current rules for DSH payment, with hospitals qualifying under eight different formulas.

The analysis indicates that the only disproportionate share hospitals with significantly higher Medicare costs than other hospitals are large urban or rural hospitals with very high low-income shares. Moreover, even for this group, the relationship between costs and low-income share is substantially smaller than the payment formula indicates.

This finding is consistent with a 1990 Congressional Budget Office report, *Medicare's Disproportionate Share Adjustment for Hospitals*. However, as pointed out in that report, the lack of

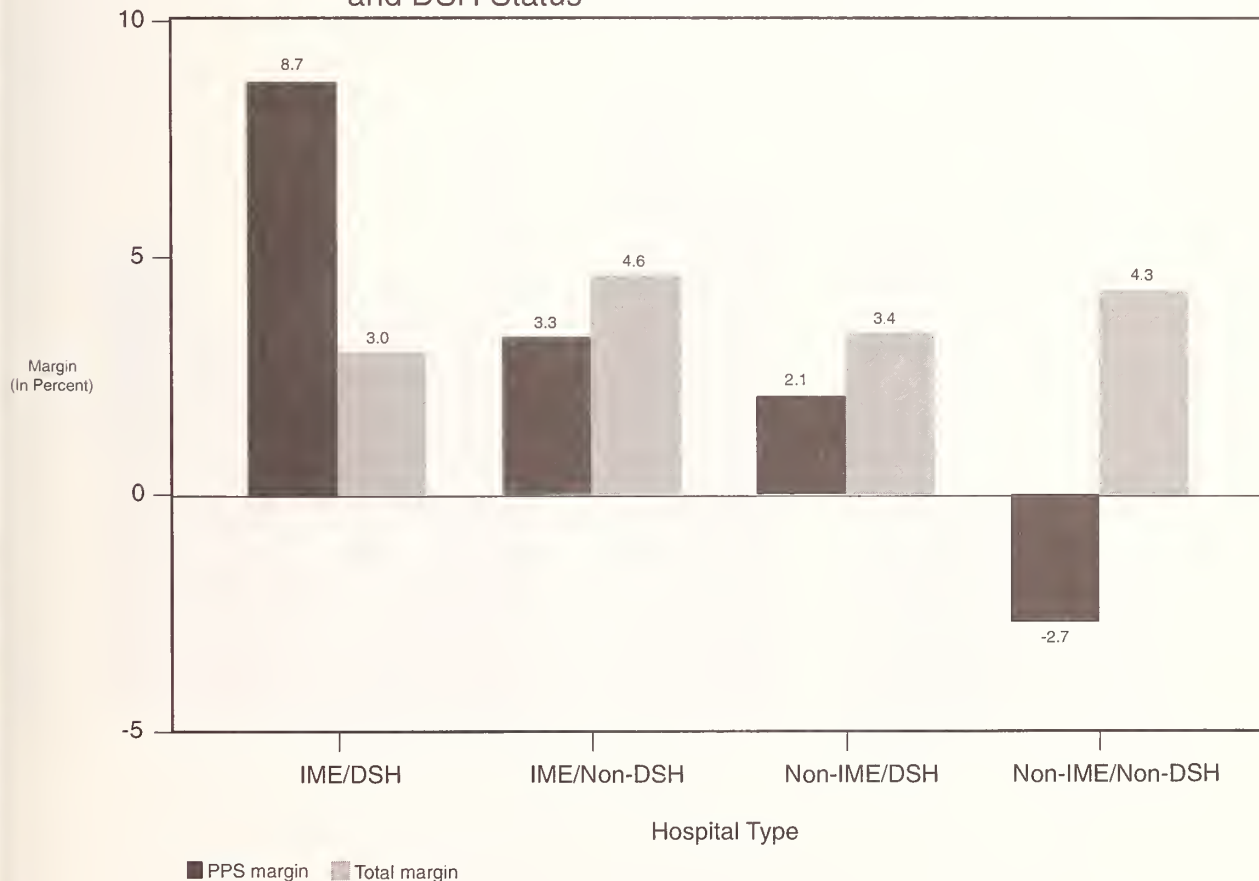
a generally significant relationship between low-income share and costs may be due to the overall revenue constraints faced by hospitals that treat the poor. In any event, the DSH adjustment may be based on additional considerations, such as the desire to maintain access to these hospitals for Medicare enrollees as well as Medicaid and other low-income populations.

ProPAC will further analyze the DSH adjustment and its interaction with the IME adjustment in the coming year.

Financial Performance by Teaching and Disproportionate Share Status and Location

There are also distinct patterns in PPS and total margins by teaching and disproportionate share status (see Figure A-4). Teaching hospitals that

Figure A-4. PPS and Total Margins in the Fifth Year of PPS, by IME and DSH Status



Note: Indirect medical education (IME); disproportionate share (DSH).

SOURCE: Medicare Cost Report data from the Health Care Financing Administration.

also receive the DSH adjustment had the highest aggregate PPS margin in the fifth year of prospective payment. Hospitals that receive both adjustments had a PPS margin of 8.7 percent, compared with -2.7 percent for hospitals that receive neither adjustment. PPS margins for hospitals receiving only one of the adjustments fell between these extremes.

The pattern of total margins is somewhat different from that of PPS margins. Dual teaching and disproportionate share hospitals had the lowest total margin in the fifth year, while teaching hospitals that are not disproportionate share hospitals had the highest total margin.

Disproportionate share hospitals had lower total margins than other hospitals in every location (see Figure A-5). However, the difference is by far the

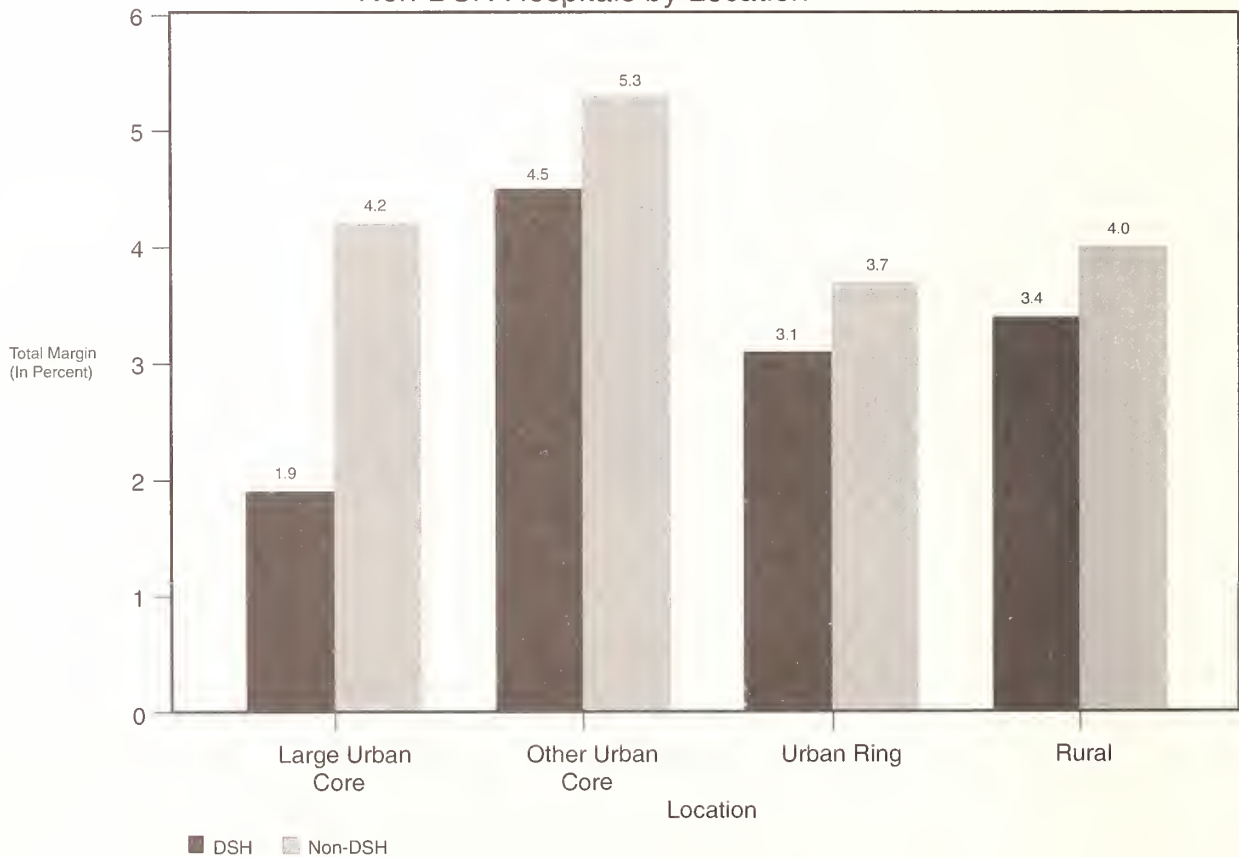
greatest in the large urban core areas. This indicates that the DSH adjustment may be more effectively targeted to hospitals with low total margins in those areas.

Targeting IME and DSH Payments

To further analyze the targeting of IME and DSH payments, ProPAC examined the distributions of these payments across five groups of hospitals, ranked in order of their total margins in the fifth year of PPS (see Figure A-6). Each hospital's total margin was computed excluding IME and DSH payments.

The lowest total margin group is comprised of hospitals with total margins (excluding IME and DSH payments) in the 20th percentile or lower; the highest total margin group consists of hospitals

Figure A-5. Total Margins in the Fifth Year of PPS for DSH and Non-DSH Hospitals by Location



Note: Indirect medical education (IME); disproportionate share (DSH).
SOURCE: Medicare Cost Report data from the Health Care Financing Administration.

with total margins in the 80th percentile or higher. If the proportion of IME or DSH payments for hospitals in any total margin group is higher than the proportion of other PPS payments, the hospitals in the group are receiving a greater share of those payments than other hospitals.

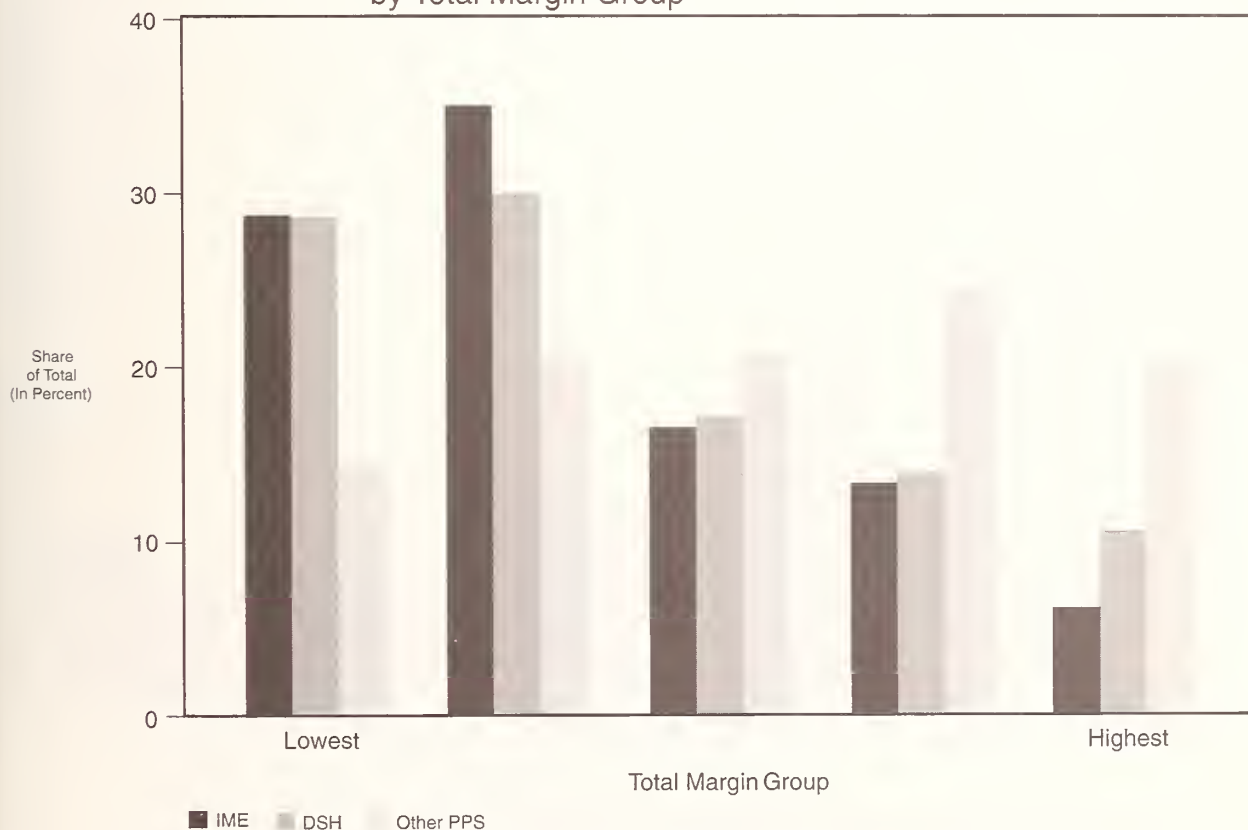
This analysis does not imply that total margins should be used as a criterion for determining PPS payment adjustments. The Commission has consistently stated that neither PPS nor total margins are appropriate to use directly for that purpose. However, total margins are useful as an analytic tool in this context, since the financial viability of teaching and disproportionate share hospitals has been a concern of both the Commission and Congress.

Hospitals with low total margins appear to have received the largest shares of both IME and DSH

payments in the fifth year. While the hospitals in the lowest total margin group received 14 percent of all other PPS payments, they received 29 percent of all IME payments and 29 percent of all DSH payments. Nonetheless, hospitals in the two highest total margin groups still received a combined 19 percent of all IME payments and 24 percent of all DSH payments.

Since the DSH adjustment has changed substantially in recent years—particularly due to the provisions of OBRA 1989 and OBRA 1990–ProPAC also examined the estimated distribution of DSH payments under fiscal year 1991 rules across the same five groups of hospitals (see Figure A-7). To achieve comparability, the distribution of DSH payments in each year was adjusted for the distribution of other PPS payments (not including IME payments).

Figure A-6. Shares of IME, DSH, and Other PPS Payments in PPS5, by Total Margin Group



Note: Total margins are calculated excluding indirect medical education (IME) and disproportionate share (DSH) payments.

SOURCE: Medicare Cost Report data from the Health Care Financing Administration.

In fiscal year 1991, the proportion of DSH payments going to the lowest total margin group fell from 29 percent to 26 percent. The proportion of DSH payments going to the highest margin group rose from 11 percent to 14 percent. This effect was especially prevalent among hospitals in urban ring and rural areas. These data indicate that changes in the DSH adjustment between the fifth year of PPS and fiscal year 1991 have directed a higher proportion of DSH payments toward hospitals that were not in financial trouble.

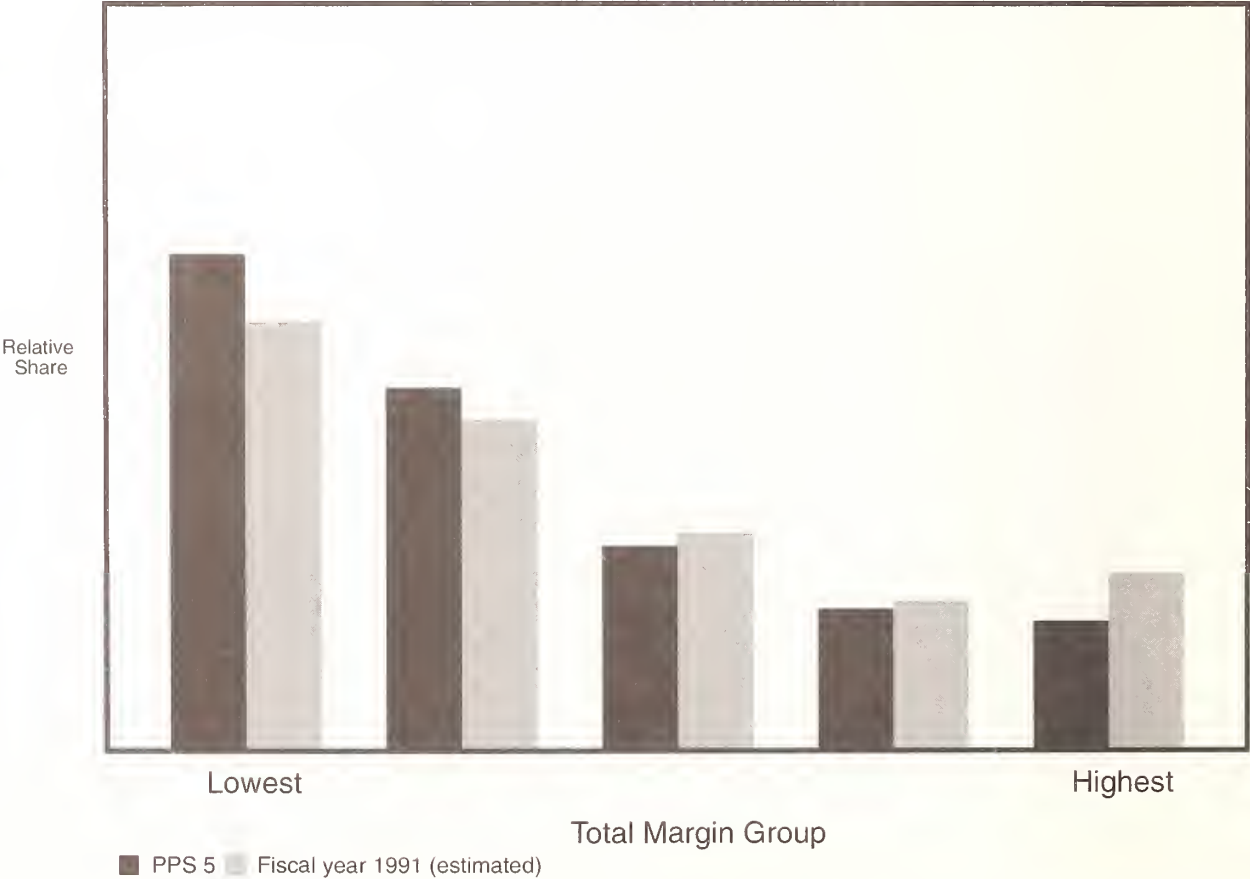
Impact of Changes in the IME Adjustment

Finally, ProPAC examined the impact on PPS payments of a reduction in the IME adjustment to

7.0 percent, consistent with the Commission’s recommendation for fiscal year 1992 (see Table A-3). Reducing the IME adjustment to 7.0 percent with no offsetting increase in the standardized payment amounts would result in a decrease of 0.4 percent in total PPS payments.

However, if the reduction in the IME adjustment is offset by corresponding adjustments to the standardized payment amounts for urban and rural hospitals, as the Commission recommends, there would be no net change in total PPS payments. Such a budget-neutral IME reduction would result in no net change for either urban or rural hospitals. Major teaching hospitals would experience a 1.1

Figure A-7. Relative Share of DSH Payments in PPS 5 and Estimated for Fiscal Year 1991



Note: Total margins are calculated excluding indirect medical education (IME) and disproportionate share (DSH) payments.
SOURCE: Medicare Cost Report data and ProPAC PPS payment model.

Table A-3. Estimated Impact on PPS Payments of Reducing the IME Adjustment from 7.7 Percent to 7.0 Percent

Hospital Group	Percent Change in PPS Payments	
	Budget Savings	Budget Neutral
All hospitals	-0.4%	0.0%
Urban	-0.5	0.0
Rural	-0.1	0.0
Disproportionate share	-0.6	-0.2
Non-disproportionate share	-0.3	0.1
Major teaching	-1.5	-1.1
Other teaching	-0.5	0.0
Non-teaching	0.0	0.4

SOURCE: ProPAC PPS payment model.

percent decrease in PPS payments, while non-teaching hospitals would experience a net increase of 0.4 percent.

Conclusions

The Commission recognizes that, since PPS began, the Medicare program has more than adequately compensated teaching hospitals for the costs of treating Medicare patients. The current 7.7 percent IME adjustment is substantially higher than the empirical estimate of 4.2 percent indicated by the most recent analysis. Moreover, PPS margins consistently have been higher for teaching hospitals than for non-teaching hospitals. PPS margins for major teaching hospitals have been especially high.

However, the overall financial performance of major teaching hospitals has been poor relative to other hospitals. Major teaching hospitals have had lower total margins than any other major hospital group. The pattern of IME payments across hospitals indicates that these payments are concentrated among hospitals with low total margins. The Commission is concerned that the continued operation of these hospitals and the fulfillment of their unique role in the provision of health care might be impaired without continued Federal support.

The Commission believes that the Medicare program's responsibility to its enrollees is broader than merely the payment of Medicare operating costs. This responsibility includes maintaining access to high-quality health care, which might be adversely affected if the poor financial status of

major teaching hospitals were to worsen. A sharp reduction of the IME adjustment might have that undesirable effect.

Given these considerations, the Commission believes that a gradual reduction of the IME adjustment is a prudent course of action. The ProPAC recommendation would reduce the adjustment by one-fifth of the difference between its current level of 7.7 percent and the Commission's empirical estimate of 4.2 percent.

This approach recognizes as an ultimate objective the use of the IME adjustment to appropriately compensate for differences in Medicare costs that are attributable to differences in teaching intensity. At the same time, the DSH adjustment or a future refinement of that adjustment should be used to fulfill the broader social responsibilities of the Medicare program as efficiently as possible. No preferable alternative to the DSH adjustment is available at this time, but the amount of information on this issue has grown rapidly in the past year.

The Commission therefore recommends a reduction in the level of the IME adjustment from its current level of 7.7 percent to 7.0 percent for fiscal year 1992. The anticipated decrease in Medicare hospital payments that would result from this reduction should be exactly offset by corresponding increases in the standardized payment amounts for urban and rural hospitals.

Further reductions in the IME adjustment should be considered in the context of their interaction with the other components of the payment system and their overall effect on PPS payments. The impact on the quality of care and access to that care should also be considered. In general, the effects of any change in Medicare payment policy must be considered in terms of its impact on the health care system as a whole.

In the coming year, ProPAC will continue to examine the level and structure of the IME adjustment, as well as other factors that influence payments and costs for teaching hospitals and their financial condition. The distribution of PPS and total margins, along with other effects of potential changes in the IME adjustment, will also be studied.

ProPAC's analysis also indicates that, unlike teaching hospitals, disproportionate share hospitals generally do not have significantly higher Medicare costs than other hospitals. Urban hospitals with large shares of low-income patients are the only exception to this finding.

Like teaching hospitals, disproportionate share hospitals have been more than compensated for their Medicare costs. PPS margins for disproportionate share hospitals are substantially higher than for other hospitals. However, disproportionate share hospitals also have low total margins.

Of particular note is the poor overall financial condition of disproportionate share hospitals in the cores of large urban areas. These hospitals provide the main link to the health care system for many people who are too poor to pay for medical care. Without continued Federal support, many of these hospitals might lack the resources to provide the care required by the population they serve.

The Commission believes that, although the relationship between disproportionate share status and Medicare costs is not strong, this may be due to the revenue constraints historically faced by hos-

pitals that provide the bulk of care to the poor. Moreover, it is appropriate for the Federal government to subsidize continued access to care for this population, which may include many Medicare beneficiaries. Although it could be argued that more direct policy initiatives would be more effective in accomplishing this goal, the Medicare and Medicaid programs are currently the primary vehicles for such financial support.

In this context, the Commission believes that it is important to improve the allocation of IME and DSH payments to fulfill two objectives. One is the program-specific objective of appropriately compensating hospitals for their Medicare costs. The other is the broader objective of maintaining access to care for the Medicare population and others.

The Commission will focus in the coming year on developing information about the effects of the current DSH adjustment and the feasibility of alternatives to this adjustment. The Commission also urges the Secretary of Health and Human Services to pursue this line of analysis—including the examination and development of more direct methods for fulfilling the Federal government's broader responsibilities to maintain access to high-quality health care for the entire population.

PPS-EXCLUDED HOSPITALS AND DISTINCT-PART UNITS

Four types of hospitals (psychiatric, rehabilitation, long-term, and children's) and two types of distinct-part units (rehabilitation and psychiatric) are excluded from PPS. In fiscal year 1989, cancer hospitals were added to the list of PPS-excluded facilities.

Payment Policy

PPS-excluded providers are paid on the basis of each facility's historical costs trended forward, with a limit placed on the rate of increase in per-case reimbursable costs. These target rate-of-increase limits, established by the Tax Equity and Fiscal Responsibility Act of 1982, are updated annually. The target rate per discharge is based on hospital-specific Medicare costs in a base year. The base year varies depending on when the facility was constructed or converted to a PPS-excluded category.

Facilities with costs less than the target rate per discharge receive their cost plus an additional payment that is the lesser of 50 percent of the difference between its costs and the TEFRA target rate, or 5 percent of the TEFRA target rate. Facilities with costs exceeding the target rate per discharge received an additional payment in fiscal years 1983 and 1984. This payment equaled 25 percent of the difference between their costs and the TEFRA target rate. From fiscal year 1985 through fiscal year 1991, facilities with costs higher than the target rate per discharge received no additional payments. Beginning in fiscal year 1992, providers will receive 50 percent of their costs above the target amount, subject to a payment ceiling of 110 percent of the target amount.

Adjustments to Payment

The Secretary is required to provide for an exemption from, or an exception and adjustment to, the amount of payment for a hospital where events beyond the hospital's control distort the increase in costs for a reporting period. The Secretary may select the most appropriate method for exemption, exception, or adjustment, including assigning a new base year. Providers must submit separate applications for each year that costs exceed payments.

OBRA 1990 specified the procedure and criteria for an exception or adjustment to the target rates. The Secretary must announce a decision on any request within 180 days of receiving the hospital's application from the fiscal intermediary.

In addition, the grounds on which the Secretary may grant an appeal for an exception or adjustment were clarified in legislation. They include:

- Changes in applicable technology or medical practice, or differences in the severity of illness that increase costs;
- Increases in wages and wage-related costs in the geographic area of the hospital that exceed the national change in hospital wages; or
- Other factors the Secretary considers appropriate in determining increases in the hospital's costs of providing inpatient services.

The Administrator of HCFA is required to provide guidance to the intermediaries and hospitals to help them file complete applications. These instructions have not been issued. According to HCFA staff, draft instructions have been prepared and are expected to be issued in the next several months.

The American Hospital Association surveyed TEFRA providers on the exceptions process. It concluded that providers often lack guidance on the type of data needed to document justifiable changes in costs. In addition, providers indicated that the criteria used to determine whether an exception was merited were ambiguous and inconsistent. These problems often resulted in lengthy reviews.

Further, data on adjustments granted are not systematically collected. Anecdotal evidence from the AHA survey indicates that more than half of the adjustment requests were partially or fully granted. However, Medicare Cost Reports are not amended to reflect these additional payments. This limits the ability to assess financial performance adequately.

Update Factor Components

The Commission's update factor recommendation for PPS-excluded hospitals and distinct-part

units is determined by projected increases in the market basket for these facilities (corrected for past forecast error), as well as an allowance for scientific and technological advancement. ProPAC believes that adjustments for case-mix index change are inappropriate for excluded facilities. Because these facilities are not reimbursed on the basis of DRGs, changes in CMI do not influence their payments. Further, unlike the PPS update, the Commission does not believe that a productivity adjustment is appropriate for PPS-excluded facilities. Medicare automatically shares in the savings under TEFRA. Therefore, part of any productivity increase is factored into reduced Medicare payments.

Market Basket—The hospital market basket measures the average change in the price of goods and services purchased by hospitals to provide inpatient care. The projected change in the market basket is an integral component of the Commission's update factor recommendation, for both PPS and PPS-excluded facilities. HCFA and ProPAC use different market basket constructions.

HCFA and ProPAC compute a separate market basket for PPS-excluded facilities. The major differences between the PPS market basket and the market basket for excluded facilities are the weights for the wage and salaries and benefit components. These components comprise 74.0 percent of the market basket for excluded facilities, compared with 61.7 percent of the PPS market basket. This reflects a difference in the mix of inputs for PPS hospitals versus excluded facilities. As a result, changes in wages affect the PPS-excluded market basket more than the PPS market basket. The current PPS-excluded market basket forecast for fiscal year 1992, based on HCFA's construction, is 4.9 percent.

The Commission believes that the HCFA's market basket, as currently constructed, does not adequately recognize the unique characteristics of the hospital labor market. The major reason is that the proportion of internal hospital wages used in the wage component of the HCFA market basket is lower. ProPAC's version of the excluded market basket is projected to increase by 5.1 percent.

Forecast Error Correction—The Commission has recommended that the update factor should include a correction for substantial errors made in

past market basket forecasts. This requires comparing the actual market basket increase in a given year with the forecast used to update payments in that year. A two-year time lag exists between the forecast and the actual market basket increase. ProPAC has recommended that the update factor include a correction only for substantial forecast errors. In the past, the Commission has recommended correcting for forecast errors that equal or exceed 0.25 percentage points.

The fiscal year 1990 market basket forecast was 5.5 percent, and the actual market basket was 4.5 percent. Therefore, the market basket forecast error for fiscal year 1990 was -1.0 percentage points.

Scientific and Technological Advancement—The scientific and technological advancement allowance is based on estimates of the incremental costs of care attributable to cost-increasing, quality-enhancing technologies. In arriving at a judgment regarding the allowance, the Commission distinguishes between existing cases and new cases. Only the costs associated with existing cases are included in the allowance. These are admissions that would have occurred even if a new technology were not available.

Each technology included in the estimate of the allowance met four criteria. First, the technology should have a significant effect on Medicare operating costs. Second, it should be at least 5 percent diffused in the Medicare population. Third, it should be no more than 75 percent diffused in the Medicare population. Finally, the technology should be safe and effective.

These estimates are subject to several limitations. They do not capture all relevant cost: costs from improvements in widely diffused technologies, the adoption of low-cost technologies, and subtle changes in practice patterns are not measured, for example. Moreover, the estimates reflect only technologies adopted systemwide. Finally, the estimates are based on projections of costs and future rates of adoption and use. Despite these limitations, the Commission has found this technology-specific approach useful for deriving more informed estimates.

For fiscal year 1992, incremental costs were estimated for five technologies found in PPS-excluded facilities. Total costs are estimated to

increase from \$2.3 million to \$4.3 million, with a best estimate of \$3.0 million. Payments for Medicare inpatient operating costs in PPS-excluded facilities would need to increase by between 0.05 percent and 0.1 percent to finance these costs.

Positive Adjustment Allowance—By 1988, more than half of all PPS-excluded providers had median TEFRA inpatient margins of less than zero. Providers that were excluded from PPS early in the program are more financially vulnerable than those excluded in later years. (For more information on the financial condition and patient characteristics of PPS-excluded providers, refer to the Commission's June 1991 report, *Medicare and the American Health Care System*.)

To examine the effect of year of program entry, the Commission conducted two analyses. First, all providers reporting in each fiscal year, from 1984 to 1988, were examined. Second, cohorts of providers were grouped by fiscal year. Each cohort was mutually exclusive: for example, providers in the fiscal year 1985 cohort were excluded from other cohorts. Consequently, the numbers of providers in each group varies.

In fiscal year 1988, the median inpatient TEFRA margin for all rehabilitation hospitals was -0.6 percent. However, rehabilitation hospitals in the fiscal year 1985 cohort had a median margin of -1.9 percent by 1988, compared with -0.3 percent for hospitals in the fiscal year 1988 cohort. Distinct-part rehabilitation units had a median TEFRA margin of -5.5 percent by fiscal year 1988. However, units in the fiscal year 1985 cohort

had a median margin of -10.3 percent, compared with 0.4 percent for those in the fiscal year 1988 cohort.

The same pattern—more vulnerable financial condition for earlier cohorts—exists for providers of psychiatric care. In fiscal year 1988, the median TEFRA margin for all psychiatric hospitals was -8.0 percent. However, by fiscal year 1988 psychiatric hospitals in the fiscal year 1985 cohort had median margins in 1988 of -16.0 percent compared with 0 percent for those in the 1988 cohort. Distinct-part psychiatric units that were excluded earlier from the program had lower median inpatient TEFRA margins than those excluded in later years as well.

Several factors contribute to the financial performance of PPS-excluded providers. Between fiscal years 1984 and 1988, PPS-excluded providers received the same update as PPS hospitals (see Table A-4). The PPS update was constrained due to rapid growth in payments resulting from CMI change. During this period, for example, the cumulative market basket increase was 22 percent. However, PPS payments rose nearly 47 percent, due to case-mix index change. PPS-excluded providers, however, did not benefit from this CMI change. As a result, the target rates increased only 14.2 percent.

Since fiscal year 1989, PPS-excluded providers have had higher updates, equal to the market basket. Further, in fiscal year 1990, as previously recommended by ProPAC, an excluded market basket was adopted by the Secretary for these providers.

Table A-4. Percentage Increase for PPS-Excluded Providers as of the End of the Fiscal Year

Fiscal Year	Market Basket	Excluded Update	Change from Market Basket	Increase in PPS Payments
1984	4.9%	4.7%	-0.2%	18.9%
1985	3.9	4.5	0.6	10.3
1986 ^a	3.1	0.5	-2.6	3.4
1987	3.6	1.2	-2.5	4.6
1988 ^b	4.8	2.7	-2.1	5.8
Cumulative change:				
1984-1988	22.0	14.2	-6.6	48.7

Note: The market basket numbers are based on the latest available data. Before fiscal year 1991, the PPS market basket was used to update TEFRA target rates. Figures have been rounded.

^a From October 1, 1986 through May 1, 1987, the update was 0.0 percent.

^b The update was 0.0 percent for the first 51 days of fiscal year 1988.



OUTPATIENT PAYMENT REFORM

Hospitals have changed both the types and mix of services they provide for a variety of reasons. The number of hospitals providing outpatient services grew markedly during the 1980s. For example, 41.1 percent of hospitals reported having an organized outpatient department in 1981. From 1981 to 1983, this proportion grew by a modest 1.5 percent per year; in 1983, 44.4 percent of hospitals had this type of department. Between 1983 and 1987, however, the rate of growth increased to 6.2 percent per year so that, in 1987, 69 percent of hospitals had an organized outpatient department.

Due to this trend, outpatient revenue has become a larger share of total hospital revenue. Compared with larger hospitals, smaller hospitals and those located in rural areas depend more on outpatient revenue. Reflecting this growth, Medicare benefit payments for outpatient hospital services increased two to three times more than for inpatient services. Between 1983 and 1989, payments for hospital outpatient services increased at an average annual rate of about 16 percent, compared with 6 percent for inpatient services. During this period, outpatient payments also increased at a slightly faster rate than other Part B services.

In addition, many outpatient services are provided in non-hospital settings. While hospitals are shifting the site of care from inpatient to outpatient settings, many beneficiaries now receive ambulatory care in free-standing settings.

Several factors have been crucial to the proliferation of ambulatory sites of care. The development of technologies that allowed certain services to be provided without a hospital stay fostered the growth of some of these ambulatory services. Payment and volume constraints for many inpatient services have also influenced the growth of alternative services. For example, PPS and other third-party payment policy incentives have reduced inpatient care, further stimulating the use of ambulatory care. In addition, changes in consumer demand and physician practice patterns have contributed to shifts in sites of care. Encouraged by these factors, hospitals and other providers have established a variety of ambulatory care services. As a result, the supply of these services has grown rapidly.

(For more information on the growth in outpatient services, refer to ProPAC's *Hospital Outpatient Services: Background Report to Congress*, July 1990, C-90-02.)

Outpatient Payment Policies

Part B of Medicare covers a wide range of ambulatory services. These include diagnostic laboratory, X-ray, and other testing services; durable medical equipment; devices; and other supplies furnished by individual practitioners and suppliers. The hospital setting has not been a dominant source of outpatient service. Furnished in both the hospital outpatient setting and other settings, most of these services are paid for differently, depending on the site of care.

Any payment system has two components—the unit of service and the method of payment. The current system employs a fragmented approach for paying outpatient services. Frequently, different payment methods are used for the same service, depending on the site of care (see Table A-5). Further, payment methods can differ within the same setting—again depending on the service. In the hospital setting, for example, payment methods range from prospective rates to cost-based reimbursement. In 1987, less than 40 percent of Medicare charges in the hospital outpatient setting were reimbursed on a reasonable cost basis. The remaining charges were reimbursed on either a prospective rate (such as laboratory and renal dialysis) or a blended rate that includes a portion of costs and a prospective amount.

In recent years, numerous new ambulatory sites of care have emerged; these have been marketed by physicians, hospitals, for-profit entrepreneurs, and other entities. Medicare does not have health, safety, or other requirements for these entities, nor does it recognize them as specific facilities for payment. If these entities are not part of a hospital, the coverage and payment rules follow either the requirements for physician services or other suppliers of services. Payment is based on fee schedules or reasonable charges. Sometimes, however, the site is actually an extension of the hospital outpatient setting (that is, they are considered a part of the hospital). In these cases, hospital outpatient coverage and payment rules apply.

Table A-5. Payment Methods for Services in the Hospital Outpatient Setting Compared With Other Sites of Care

Service	Payment Method	
	Hospital Outpatient	Other Outpatient Sites*
Radiology and imaging	Blended rate	Fee schedule
Laboratory	Fee schedule	Same fee schedule
Durable medical equipment	Fee schedule	Same fee schedule
Renal dialysis	Prospective rate	Prospective rate
Ambulatory surgical center procedures	Blended rate	Prospective rate
Other procedures	Cost reimbursement	Reasonable charges
Clinic visits	Cost reimbursement	Reasonable charges
Emergency room visits	Cost reimbursement	Reasonable charges
Medications	Cost reimbursement	Reasonable charges
Physical therapy, rehabilitation	Cost reimbursement	Reasonable charges
Ambulance	Cost reimbursement	Reasonable charges
Dressings, casts, supplies	Cost reimbursement	Reasonable charges
Other	Cost reimbursement	Reasonable charges

* Other methods are used when the services are furnished in other outpatient settings including rural health clinics, comprehensive outpatient rehabilitation facilities, and rehabilitation agencies and clinics. For the reasonable charge method of payment, some carrier fee screens and limits on annual updates effectively are area-specific fee schedules.

In addition to the various payment policies, the unit of payment varies as well (see Table A-6). The unit of payment ranges from individual services like radiology to a package of services like surgeries approved to be performed in ambulatory surgery centers (ASCs).

There are many different providers of outpatient services. For the same service, the method of payment and the unit of payment generally differs between hospital and other ambulatory care providers. Further, within the hospital outpatient setting, payment methods and units can differ depending

on the service provided. These factors complicate payment reform. Issues regarding comparable treatment of different providers, appropriate units of payments, and methods of payment will be considered by the Commission.

Payment Policy Reform

The proliferation of ambulatory settings led Congress to instruct both ProPAC and the Secretary of Health and Human Services to develop alternative outpatient payment systems. OBRA 1990 requires the Secretary to develop a proposal to replace Medicare’s current payment system for

Table A-6. Units and Methods of Payment for Hospital Outpatient Services

Unit of Payment	Method of Payment		
	Cost-Based	Blended Rate	Predetermined or Prospective Rate
Procedure level ^a	Non-ASC procedures, clinic and emergency room visits, and other services ^b	Radiology	Durable medical equipment and laboratory services
Package of related services			Renal dialysis
Classification system		ASC procedures	
Episode			Hospice ^c

^a ICD-9-CM or CPT-4 charge level item.
^b Other services include ambulance, therapies, and drugs.
^c Hospice care is a Part A service. It is the only example of a unit of payment considered an "episode."

hospital outpatient services with a prospective system. The Secretary is required to consider a number of factors including:

- The need to provide for appropriate limits on increases in Medicare expenditures;
- The need to adjust prospectively determined rates to account for changes in a hospital's outpatient case mix, severity of illness of patients, volume of cases, and the development of new technologies and standards of medical practice;
- The need to provide hospitals with incentives to control the costs of outpatient services; and
- The feasibility and appropriateness of varying payments under the system on the basis of whether services are provided in a free-standing or hospital-based facility.

The Secretary must submit his report by September 1, 1991. The Commission is required to analyze and comment on this report by March 1, 1992.

To respond adequately to the congressional mandate, the Commission is examining available data on outpatient services. In addition, ProPAC is looking at various payment policy options and is monitoring the Secretary's research. The Commission will analyze and comment on the Secretary's report in its March 1992 report.

Guidelines

Defining the unit and method of payment is critical to policy design. Yet development of an optimal payment policy must also consider potential behavioral responses on the part of all ambulatory care providers. Some responses are evident immediately, whereas others occur over time as providers and beneficiaries understand and adjust to the payment system. Medicare payment policy places incentives on providers related to coding, billing, and site of care selection. Likewise, policy can influence beneficiary use of services.

The Commission developed guidelines to evaluate alternative policies in light of the factors it regards as most important. These guidelines reflect an optimal payment system. While each of these

goals may not be fully realized in the short term, the Commission will use them to evaluate payment policy options.

The system should provide incentives for controlling total expenditures. PPS provides incentives for hospitals to deliver cost-effective inpatient care by offering providers the opportunity for a profit as well as the risk of financial loss. Similar incentives should be instituted for outpatient services.

The system should maintain general access to high-quality care for Medicare beneficiaries. The Commission is aware that it is difficult to define and identify high-quality care. However, measuring and monitoring quality in the outpatient setting should continue and be enhanced. Implementation of payment policy reform should include an evaluation to determine evidence of systematic quality or access problems.

The system should recognize alternative sites and changing methods of providing care, and provide similar financial incentives for outpatient care, regardless of the setting. It should not inhibit appropriate care or encourage unnecessary services because of different incentives for physicians and hospitals. It should encourage quality care at the lowest reasonable costs overall. The system should provide physicians and other caregivers flexibility and incentives to deliver high-quality, cost-effective care to beneficiaries in the most suitable setting. More specifically, the policy should be structured to provide neutral payment incentives for both physicians and patients to choose the most appropriate setting, including inpatient, outpatient, and free-standing ambulatory care settings or physicians' offices. Physicians or patients should not have financial incentives to select one site over another. In addition, the system should provide the potential for constraining costs in an appropriate way. It should reward providers for delivering quality care in the appropriate setting in a cost-effective manner.

The system should recognize justifiable differences in costs of furnishing services. Costs may differ across similar facilities due to many factors. It may be desirable to adjust for some of these factors in the payment system, particularly those that represent a benefit to society. Currently, the payment rate for certain ambulatory surgeries recognizes differences in area wages. Additional

adjustments should be considered to reflect differences in costs attributable to urban or rural locations, teaching commitment, and service to the poor. An outlier or exceptions policy may also be appropriate.

The system should limit the opportunity for providers to influence payment rates through billing strategies or changes in medical record documentation. Defining the unit of payment and determining the services covered by the payment is critical in controlling hospitals' ability to influence payments. The classification system adopted should limit the opportunity to increase payments by providing more or different information on the patient's chart.

The system should promote predictability and administrative simplicity. The system should allow the government, fiscal intermediaries, and hospital administrators to determine reimbursement for services in the hospital outpatient setting.

The system should accommodate appropriate changes in medical practice patterns and new technologies. The system should not inhibit the development and diffusion of appropriate quality-enhancing technologies. The system should not, however, encourage the development or availability of new technologies that are inappropriate or unnecessary for the treatment of Medicare patients in the outpatient setting.

Appendix B. Technical Report Series

EXTRAMURAL TECHNICAL REPORT SERIES

E-87-01: Improving the Definition of Hospital Labor Market Areas and Wage Indexes (Abt Associates, Inc.)

Methods for improving the definition of hospital labor market areas were investigated. This report identifies urban and rural labor market areas with the greatest amount of wage variation. It also examines the sources of wage variation within current labor markets and possible improvements in the area wage adjustment. (2/87)

E-87-02: A Review of Adjustment Methodologies for Hospital Outcome Studies (Project HOPE)

This report includes a literature review, catalogues existing methods for adjusting outcome statistics, studies the adequacy of existing databases for these purposes. It also assesses strengths and weaknesses of various adjustment methods. (1/88)

E-87-03: Developing a Measure of Complexity of Illness Within DRGs (SysteMetrics/McGraw-Hill, Inc.)

The goal of this research was to refine the Commission's method of monitoring continuing changes in DRG case-mix and case complexity (changes within DRGs). This study refines the Commission's methodology for estimating the annual component of real case-mix change within DRGs. The methodology was used to develop annual estimates of within-DRG case-mix change for Medicare patients from 1984 to 1986. It was also used by the Commission to estimate this component of real case-mix change in future years as additional Medicare data became available. Also, estimates from this study were used to analyze the indirect teaching adjustment. (7/88)

E-87-04: The Changing Structure of the Health Care Industry and the Influence of Medicare Prospective Payments (Bernhard Friedman, Ph.D.)

This report discusses horizontal and vertical consolidation in the hospital industry during the pre- and post-PPS periods. The author also examines the relationship between prospective pricing incentives and changes in the structure of the industry, as observed through adoption of these integration strategies. The author offers implications of industry structure changes for consumers, community goals, and Medicare program expenses. Empirical evidence of the changing structure of the industry is also included. (3/88)

E-87-05: Assessing Quality Assurance Software Packages (Health Economics Research, Inc.)

This report examines the spectrum of quality assurance (QA) software packages on the market and the impact of these packages on hospital QA functions. Information was obtained through two separate surveys—one of 20 software vendors concerning the characteristics of their product, the other of 62 hospitals to determine the adoption rate for QA software. The authors first discuss the results of the vendor survey and present a comparison of selected software package characteristics. Then, the hospital survey component is discussed, with emphasis on those hospitals that have purchased a QA package. Selection process, transition period, vendor training and technical support, and impact of the software on operations were examined. The report concludes with a comparison of the physician profiling capabilities of five QA software packages as a means of illustrating different products. (10/87)

E-87-06: Assessing the Adequacy of the Medicare Cost Report Data (SysteMetrics/McGraw-Hill, Inc.)

This report provides information on perceived strengths and weaknesses of the Medicare Cost Report (MCR). Hospital financial officers, fiscal intermediaries, and industry representatives were surveyed. In general, the results of this study indicate that most hospitals believe that the MCR is acceptable as a reimbursement tool. Most hospitals felt, however, that the MCR does not accurately measure the cost of care for Medicare beneficiaries because costs such as bad debt, charity

care, patient telephones and so forth are not recognized. PPS has resulted in changes in reporting practices. Particular attention was being given to pass through items like capital and direct medical education. (4/88)

E-87-07: The Impact of Medicare Prospective Payment on the Use of Expensive Devices, 1984-86 (Project HOPE)

This report examines trends over a three-year period in the use of medical devices such as pace-makers, joint prostheses, shunts, and grafts. It focused on device use within 30 DRGs that such cases are frequently assigned to, and also looked for evidence of payment differentials that could create disincentives to device use. (3/88)

E-87-08: Trends in the Concentration of Six Surgical Procedures Under PPS and Their Implications for Patient Mortality and Medicare Cost (Project HOPE)

This report examines trends in hospitals volumes of six specialized surgical procedures and the impact of those trends on mortality and costs. The six procedures are: coronary artery bypass grafting, total hip replacement, abdominal aneurysm repair, intestinal resection, transurethral prostatectomy, and carotid endarterectomy. (6/88)

E-87-09: Estimates of Hospital Industry Total Factor Productivity for the Period 1980-1986 (PPS or Excluded Facilities) (Health Economics Research, Inc.)

Measures of total factor productivity in both PPS and excluded hospitals are developed using American Hospital Association data. Labor and capital inputs and changes in the hospital product are part of the analysis. (2/88)

E-87-10: Estimating the Impact of Scientific and Technological Advances on Increases in Medicare Costs Per Case for FY 1989: Implications for the Discretionary Adjustment Factor for FY 1989

In fiscal year 1986, the contractor refined ProPAC's technology-specific approach to estimate the impact of newly introduced scientific and technological advances on Medicare inpatient cost per case in both PPS and excluded facilities. This report refined the cost estimate techniques and developed

more refined estimates of diffusion to be used in estimating cost impacts. (5/88)

E-87-11: Small Isolated Rural Hospitals: Alternative Criteria for Identification in Comparison with Current Sole Community Hospitals (SysteMetrics/McGraw-Hill, Inc.)

This study determines how many facilities become eligible for sole community hospital (SCH) status. The contractor also examines how the distribution of SCHs would change if the SCH criteria were altered. This study also provides information used to analyze the financial vulnerability of small isolated rural hospitals. (6/88)

E-87-12: Assigning Hospitals to Urbanized Areas Within Metropolitan Statistical Areas (Abt Associates, Inc.)

This report provides step-by-step instructions for assigning hospitals within metropolitan statistical areas to urbanized areas as defined by the Census Bureau. It builds on previously completed work conducted by Abt Associates, *Improving the Definition of Hospital Labor Market Areas and Wage Indexes*. This report also responds to technical implementation issues raised by the Secretary in response to a ProPAC recommendation. (6/88)

E-88-01: Subacute Care in Hospitals, Synthesis of Findings from the 1987 Survey of Hospitals Case Studies in Five States (Lewin and Associates, Inc.)

This document is the final report of an 18-month study of subacute care in hospitals, often referred to as transitional care. Results of a representative national survey of hospitals are presented, along with findings from case studies in five states (New York, California, Louisiana, Washington, and North Carolina). Data and information are also presented on other types of transitional care, such as home health and skilled nursing care. (9/88)

E-88-02: Analysis of Hospital Sensitivity to DRG Price Variation in the Medicare Prospective Payment System (SysteMetrics/McGraw-Hill, Inc.)

This study provides information on whether hospital behavior in rendering care and assigning resources is sensitive to differences between hospital costs and PPS prices. The contractor conducted

interviews with health care consultants and hospital administrators to: (1) identify the extent and objectives of hospital strategies to concentrate in or discontinue selected services, (2) assess whether these strategies are in direct response to variations in the DRG prices or other factors influencing hospital management, and (3) examine the use of product line management and service costing in hospitals' responses to DRG price variations. (8/88)

E-89-01: Urban and Rural Cost Differences: Literature Synthesis and Review (SysteMetrics/McGraw-Hill, Inc.)

The reasons for differences in urban and rural hospital's costs per case are synthesized from current research in this report. Specifically, the basis for the lower costs of rural hospitals compared with urban hospitals is explored, and further research suggested. (3/89)

E-89-02: Treatment of Certain Hospital Labor Expenses in the PPS Market Basket (SysteMetrics/McGraw-Hill, Inc.)

This report examines certain hospital labor expenses not directly measured by the PPS market basket (contract labor, employee bonuses, recruitment costs, employee benefits, overtime and part-time employment, and changes in employee skill mix). The project examines how these costs are currently measured in the market basket and changes in these expenses between 1985 and 1988. Estimates were made of the effect these labor expenses might have had on market basket increases if the expenses were directly measured in the market basket wage component. The calculation of the Average Hourly Earnings for Non-Supervisory Hospital Workers and the Employment Cost Index for Hospitals is also described in the study. (3/89)

E-89-03: Refinement of Measure of Complexity of Illness Within DRGs (SysteMetrics/McGraw-Hill, Inc.)

This study is a follow-up on an earlier project on developing a measure of within-DRG case-complexity change. Case-complexity change is measured by applying Patient Management Categories and Disease Staging Categories to Medicare patient data that had already been grouped by DRG. The results from the initial study are consistent with previous work on case-complexity

change. The contractor applies the methodology to 1987 data, estimates the impact of upcoding on the measure, and analyzes the strengths and weaknesses of the measure. (3/89)

E-89-04: Demographics and Health of the Elderly: Past Trends and Projections (Institute for Health and Aging)

This report documents and projects the growth in the elderly population. It also covers the socioeconomic characteristics of this population segment. The largest portion of the report covers health-related topics and the impact of a growing elderly population on national health care expenditures. (4/89)

E-89-05: Hospital Closures in the 1980s: A Preliminary Analysis of Data from the American Hospital Association's Annual Survey of Hospitals, 1980-1986 (Jack Hadley, Ph.D.)

AHA annual survey data were used to determine whether the characteristics of closed hospitals have changed over time. In addition, closed hospitals were compared to open hospitals of the same size to examine differences at specific points and over time. Characteristics such as type of ownership, location, occupancy, admissions, and length of stay were examined. (5/89)

E-89-06: State Systems for Hospital Payment (Intergovernmental Health Policy Project)

State Medicaid inpatient and outpatient reimbursement systems and the use of case-mix systems are summarized in this report. It also contains information on state uncompensated care initiatives and state responses to the Medicaid provisions of the Medicare Catastrophic Coverage Act. (4/89)

E-90-01: The Relationship Between Declining Use of Rural Hospitals and Access to Inpatient Services for Medicare Beneficiaries in Rural Areas (Codman Research Group, Inc.)

This study examines hospital utilization patterns for Medicare beneficiaries living in defined rural and urban hospital market areas of five states—Alabama, California, Illinois, Montana, and Texas—from 1984 to 1986. The study examines Medicare beneficiary care according to the market area where the beneficiary lives. Cases are divided into eight DRG groups to examine whether access is

impaired for some services and not others. The study also examines how these changes in utilization affect admissions and market share of rural and urban hospitals. (1/90)

E-90-02: Alternative Hospital Market Area Definitions (SysteMetrics/McGraw-Hill, Inc.)

This report examines alternative methods for defining hospital market areas through an extensive search of the literature and contact with experts in the field. The study reviews the role market areas play in PPS. It also reviews numerous alternatives that have been used for defining market areas, exploring options that have not been used for hospitals. Finally, the study provides an evaluation of the alternative methodologies and their potential applicability to PPS for defining hospital labor and product markets. (3/90)

E-90-03: Within-DRG Case-Complexity Change: Update and Distributional Differences (SysteMetrics/McGraw Hill, Inc.)

Case-mix index change is a major contributing factor to increases in hospital payments. However, it is a poorly understood phenomenon. The report provides updates of within-DRG case-complexity change measures developed in previous studies. The report also supplies descriptive statistics on changes in numbers of comorbidities and secondary diagnoses coded, types of comorbidities and secondary diagnoses coded, and differences across hospital types. (4/90)

E-90-04: The Dynamics of Hospital Services: Changing Patterns in the Services Provided by Hospitals from 1980 to 1987 (Kirsten Iversen)

The level of services and facilities provided by hospitals is dynamic, changing over time and across settings. This analysis describes patterns in the changing levels of services provided by different groups of hospitals from 1980 to 1987. (3/90)

E-90-05: Methodology for Measuring Case-Mix Change: How Much Change in the Case-Mix is DRG Creep? (RAND Corporation)

ProPAC assisted the Health Care Financing Administration in a medical record reabstraction study. This study develops a method to distinguish case-mix increases caused by changes in coding practices from changes in treatment patterns and

patient mix. It also provides information for developing and refining alternative ongoing data collection methods to monitor case-mix change over time. The Commission helped fund this project and provided support in designing, implementing, and monitoring the study. (6/90)

E-90-06: Moveable Capital Cost Weights (Kurt Price)

The Commission is continually interested in evaluating a capital payment option that would involve incorporating the costs of moveable capital equipment into the DRG standardized amounts while maintaining cost reimbursement for the costs of plant and fixed equipment. This analysis was to determine if the current DRG relative weights adequately reflect the variation in moveable equipment costs. It examines the relationship between DRG weights based only on medical equipment costs with the current PPS total charge-based weights. The study shows that the current PPS weights inaccurately reflect relative moveable equipment costs across many DRGs. The impact of these inaccuracies is inconsequential, however, when the contribution of moveable equipment costs to total hospital costs is considered. (8/90)

E-90-07: How Services and Costs Vary by Day of Stay for Medicare Hospital Stays (RAND Corporation)

This study describes how the cost of services provided during Medicare hospital stays varies throughout the stay. It also examines how patterns of daily costs vary with clinical characteristics, with hospital characteristics, and with the types of services provided. The study was based on data on the daily services billed to Medicare patients between May 1987 and April 1988 from a sample of 105 hospitals, and was the first time such data had been used in this way. (2/90)

E-90-08: Comparative Analysis of Annual Survey and Medicare Cost Report Margin Data (American Hospital Association)

This report presents the results of a comparative analysis of total hospital margin data derived from a matched sample of Medicare Cost Reports (MCRs) and corresponding American Hospital Association (AHA) Annual Surveys. Initially, the national average MCR margin was significantly

higher than the corresponding Annual Survey margin. After editing, however, the MCR margin was found to be slightly lower than the AHA figure. A telephone survey was used to investigate the reasons for the MCR/AHA discrepancies. The report analyzes the discrepancies by type of hospital and categorizes the reasons they occur. The study concludes that properly edited MCR income statement data are useable in research applications. Only one source of bias was documented as significantly affecting calculation of average total margins by hospital group. This was the failure of some public hospitals to report government subsidies as revenue on their MCRs. (4/90)

E-90-09: Hospital Cost Variations Under PPS (Center for Health Policy Studies, Georgetown University)

This study explores the impact of PPS and other factors in accounting for variations in total costs among hospitals during the 1980s. The goal was to understand the extent to which PPS has affected hospital costs, and the mechanisms that have produced those effects. The impact of PPS was isolated by analyzing a time-series of cost data for a sample of hospitals, while controlling for the effects of other factors, such as input prices, mix of outputs, volume of outputs, local competition, and health insurance coverage. The study also focuses on the roles of staffing, service mix, patient volume, and financial pressure, to identify the mechanisms that have operated to produce PPS effects. These analyses were conducted separately for all sample hospitals and for important subgroups of the hospital industry, including urban and rural hospitals. (9/90)

Pending

Classification Systems for PPS-Excluded and Non-PPS Providers (Project HOPE)

This study will provide an overview and evaluation of systems that measure the case mix or resource complexity of patients treated in hospitals excluded from Medicare's PPS or patients treated by non-PPS providers. PPS-excluded hospitals include psychiatric and rehabilitation hospitals and distinct-part units as well as children's, long-term, and cancer hospitals; non-PPS providers include home health care agencies and skilled nursing facilities. The report will identify and describe available

research on patient classification systems, case-mix measurement systems, and payment systems for each of the types of providers. Each system will be evaluated using a set of criteria related to patient classification such as administrative feasibility, ability to explain variations in resource use, and clinical validity. Other criteria will be applied to the evaluation of payment systems. Among the criteria to be used are administrative feasibility, equity of the system, and system effectiveness. (3/91)

INTRAMURAL TECHNICAL REPORT SERIES

I-88-01: Proceedings from ProPAC's Technical Advisory Conference on Alternative Case-Mix Classification Systems

This paper first summarizes the presentations made by the developers of six case-mix classification systems. It also outlines the case-mix studies funded by the Health Care Financing Administration. Then comparisons of case-mix classification systems are presented. The final section of this paper consists of ProPAC's conclusions on case-mix measurement. (1/88)

I-88-02: Recalibration Analysis Comparing Charge-Based and Cost-Based DRG Weights

ProPAC analyzed the two methods of recalibrating the DRG relative weights, using charges only (charge-based) and using charges that are adjusted by costs (cost-based). This report provides a detailed description of the data, methods, and results of ProPAC's comparisons. (3/88)

I-89-01: Staffing Shortages and Hospital Responses

ProPAC obtained information on the shortage issue and hospital responses to personnel shortages through a literature review and informal telephone interviews with hospital personnel. The literature review provided information about staffing shortages for several different occupations. The telephone interviews provided supplementary information using anecdotal reports of staffing situations at individual hospitals. (3/89)

I-89-02: Analyses of DRG Classification and Assignment

This report presents results of ProPAC's analyses of diagnosis-related group classification and assignment. Periodic adjustments to the DRGs are necessary to reflect new technologies, scientific advances, and changes in medical practice. This report includes information on Commission recommendations for classification or assignment improvements. These recommendations are related to new and changing technologies and practice patterns, and to equity of payment among hospital groups. Analyses of other DRG classification and assignment issues are also included. (3/89)

I-89-03: Review of Medicare Cost Report Data for Policy Analysis

This report summarizes the work undertaken by the Commission on the use of the Medicare Cost Report (MCR) data for decision making. The major activity the Commission initiated to identify improvements in the use of existing cost data for policy analysis was to convene a panel to discuss the strengths and weaknesses of the MCR. The report also summarizes ProPAC's monitoring of HCFA's three-year demonstration assessing the costs and benefits of adding financial and utilization information regarding other payers to the MCR. (3/89)

I-89-04: Payment Adjustments—Indirect Teaching and Disproportionate Share Hospitals

ProPAC analyzed the effect of teaching effort on Medicare costs. The objectives of the analysis were: to estimate the relationship between teaching effort and Medicare cost per case using the most recent Medicare Cost Report data available; to examine the overlap between the indirect medical education and the disproportionate share payment adjustments; and to evaluate the financial impact of revising the indirect medical education adjustment. The report describes the methods and results of the analysis. (7/89)

I-90-01: Medicare-Dependent Hospitals Under PPS

The Omnibus Budget Reconciliation Act of 1989 required the Commission to study the appropriateness of making an adjustment to Medicare payment to hospitals that treat a high proportion of

Medicare discharges. Information on this topic was included in ProPAC's June 1990 report, *Medicare Prospective Payment and the American Health Care System*. (6/90)

I-90-02: Adjusting the Area Wage Index for Occupational Mix

Currently, the area wage index does not account for geographic differences in occupational mix. This report presents results from ProPAC's study on the effect of adjusting the area wage index for occupational mix. The relationship of occupation mix to case mix is investigated. The report describes the methods and results of the analysis. The results include metropolitan statistical area, regional, and urban/rural estimates of the impact. In addition, the effect on payments of an adjustment for occupational mix of the wage index are calculated. (4/90)

I-90-03: Analyses of DRG Classification and Assignment

This report updates material in ProPAC's 1989 report, *Analysis of DRG of Classification and Assignment* (TRS I-89-02) and presents results of ProPAC's analyses of diagnosis-related group classification and assignment. Periodic adjustments to the DRGs are necessary to reflect new technologies, scientific advances, and changes in medical practice. This report includes information on Commission recommendations for classification or assignment improvements. These recommendations are related to new and changing technologies and practice patterns, and to equity of payment among hospital groups. Analyses of other DRG classification and assignment issues are also included. (8/90)

I-90-04: Financial Status of High Case Mix Hospitals

The Omnibus Budget Reconciliation Act of 1989 required the Commission to study the financial status of high case mix hospitals with special attention devoted to capital investment. Information on this topic was included in ProPAC's June 1990 report, *Medicare Prospective Payment and the American Health Care System*. (6/90)

I-91-01: Hospital Closures: 1985–1988

This report contains descriptive statistics on hospitals that closed between 1985 and 1988. Data are from the American Hospital Association annual

surveys, Medicare Cost Reports, and the Area Resource File. Rural and urban hospitals that closed are analyzed separately and compared with open rural and urban hospitals having fewer than 200 beds. (1/91)

I-91-02: The Role of Profitability and Community Characteristics in Hospital Closures

This study investigates hospital closures that occurred from 1985 through 1988. The analysis focuses on the relationship between profitability and closure. Further, the analysis evaluates the impact on profitability of characteristics related to the hospital's mission and standing in the community. In addition, the analysis is extended by examining the factors that influence profitability and its components: revenue per case, cost per case, and total cases. This report provides a detailed description of the data, methods, and results of the study. (2/91)

Pending

Improving the Area Wage Index: The Area Wage Index and the Mix of Occupations Across Areas

Currently, the area wage index incorporates differences in the price of labor as well as the mix of occupations across areas. This report will present the results of ProPAC's study on the effect of adjusting the area wage index for occupational mix. The results will be presented separately for metropolitan statistical areas and rural areas. The study will be based on Uniform Reporting System data collected from California hospitals. The report will also describe the method used in California to collect data by occupational category. (3/91)

Hospital Uncompensated Care Costs

This report will present the results of an analysis of uncompensated care costs for both PPS and PPS-excluded hospitals. Uncompensated care for this study is defined as the sum of charity care and bad debts, and uncompensated care costs are measured both with and without an offset for subsidies received from state and local governments. The study will be based on data from the American Hospital Association Annual Survey over the period 1980 to 1989. Both the trend and distribution of uncompensated care costs will be measured by hospital

group. In addition, the relationship between uncompensated care costs and indirect medical education and disproportionate share payments under Medicare will be examined. (4/91)

Payment Adjustments—Indirect Teaching and Disproportionate Share Hospitals

ProPAC will analyze the effect of teaching effort on Medicare costs. The objectives of the analysis are to estimate the relationship between teaching effort and Medicare cost per case using the most recent Medicare Cost Report data available. The study will also examine the overlap between the indirect medical education and the disproportionate share payments by revising the indirect medical education adjustment. The report will describe the methods and results of the analysis, and will build on analysis reported in *Payment Adjustments—Indirect Teaching and Disproportionate Share Hospitals* (TRS I-89-04). (6/91)

CONGRESSIONALLY MANDATED REPORTS

C-88-01: An Evaluation of the Department of HHS Report to Congress on Studies of Urban-Rural and Related Geographical Adjustments in the Medicare PPS

The Omnibus Budget Reconciliation Act of 1987 required ProPAC to report to the Congress on its evaluation of the Secretary's study on the feasibility and impact of eliminating or phasing out separate urban and rural rates. The report is organized into four major sections: background and definition of issues, summary of the Secretary's study methods and findings, Commission evaluation of the Secretary's study, and future direction of Commission activities. (6/88)

C-88-02: Linking Medicare Capital Payments to Hospital Occupancy Rates

The Omnibus Budget Reconciliation Act of 1987 required ProPAC to report to the Congress on the suitability and feasibility of linking Medicare capital payments to hospital occupancy rates. This was addressed by reviewing current Medicare capital payment principles, examining historical trends in capital costs and occupancy rates, and analyzing the relationship between capital costs and occupancy. (4/88)

C-88-03: Outlier Payment Alternatives for Burn Cases

The Omnibus Budget Reconciliation Act of 1987 required ProPAC to study alternative payment methods for burn outlier cases under the prospective payment system. In this report, the Commission examines costs and PPS payments for all burn cases as well as outlier cases only. Differences between payments and costs for burn hospitals and units and other PPS hospitals are examined. (7/88)

C-88-04: The Views of the Prospective Payment Assessment Commission on Developing Medicare Payment for Hospital Outpatient Surgery

The Omnibus Budget Reconciliation Act of 1987 required the Secretary of HHS to solicit the views of ProPAC in developing outpatient payment systems and to include these views in a series of reports to Congress. This report focuses on the facility component of payment for surgeries performed in hospital outpatient settings. (8/88)

C-88-05: Separate PPS Payment Rates for Hospitals in Large Urban Areas and Other Urban Areas

The Omnibus Budget Reconciliation Act of 1987 required ProPAC to "evaluate the desirability of maintaining separate DRG prospective payment rates for hospitals located in large urban areas...and in other urban areas." The report first describes how PPS currently treats hospitals in different sized urban areas. Descriptive information comparing hospitals in different sized urban areas is then presented. This is followed by a discussion of the PPS policy implication of variation in costs and margins by metropolitan statistical area size. (12/88)

C-89-01: Medicare Payment for Hospital Outpatient Surgery: The Views of the Prospective Payment Assessment Commission

The Omnibus Budget Reconciliation Act of 1987 required the Secretary to solicit the views of the Commission on prospective payment for hospital outpatient surgery. This report contains ProPAC's recommendations and related rationale on such payment policy beginning in fiscal year 1990. It

also presents background information used by the Commission in its deliberations, including the findings of ProPAC's data analysis of hospital outpatient surgery costs. (4/89)

C-89-02: Payment Rates for Hospitals Redesignated from Rural to Urban: Analysis and Recommendations

The Technical and Miscellaneous Revenue Act of 1988 required ProPAC to study and report to Congress on (1) appropriate payment under PPS for hospitals located in certain rural counties that were redesignated as urban under section 4005 of Omnibus Budget Reconciliation of 1987, and (2) the appropriate treatment of the wage and wage-related costs of these hospitals in computing area hospital wage indexes for the affected urban and rural areas. This study focuses on the financial impact of various policy options on both the redesignated hospitals and on other hospitals located in the affected urban and rural areas. (8/89)

C-89-03: Adjustment to the Non-Labor-Related Portion of the Standardized Amounts

The Omnibus Budget Reconciliation Act of 1987 required ProPAC to analyze the feasibility and appropriateness of a geographic adjustment to the non-labor-related portion of the PPS standardized amounts. Price data for non-labor components of the hospital market basket are compiled from available data sources in order to determine whether non-labor prices vary by geographic area. The report contains this information and the Commission's determination whether such an adjustment is feasible and appropriate. (8/89)

C-90-01: Payments to Rural Sole Community and Small Rural Hospitals

The Omnibus Budget Reconciliation Act of 1989 required the Commission to submit a report to Congress on the feasibility and desirability of (1) using a cost-based reimbursement system for paying small rural hospitals and sole community hospitals, (2) using alternative definitions of market share to determine eligibility for sole community hospital classification, and (3) accounting for decreases in admissions in determining payments to small rural hospitals or their costs. (5/90)

Medicare-Dependent Hospitals

The Omnibus Budget Reconciliation Act of 1989 required the Commission to study the appropriateness of making an adjustment to Medicare payments to hospitals that treat a high proportion of Medicare discharges. Information on this topic was included in ProPAC's June 1990 report, *Medicare Prospective Payment and the American Health Care System*. (6/90)

Financial Status of High Case Mix Hospitals

The Omnibus Budget Reconciliation Act of 1989 required the Commission to study the financial status of high case mix hospitals with special attention devoted to capital investment. Information on this topic was included in ProPAC's June 1990 report, *Medicare Prospective Payment and the American Health Care System*. (6/90)

C-90-02: Payments for Services in Hospital Outpatient Departments

The Omnibus Budget Reconciliation Act of 1989 required the Commission to submit a report to Congress on (1) the sources of growth in spending for hospital outpatient service, (2) the difference between the costs of delivering services in a hospital outpatient department as opposed to other appropriate setting, and (3) the effects of allocation of capital costs on outpatient costs and the extent to which hospital outpatient costs were affected by PPS implementation and increased review of such services by Peer Review Organizations. (7/90)

Pending

Area Wage Index

The Omnibus Budget Reconciliation Act of 1990 requires ProPAC to examine available data from states and other sources measuring earnings and paid hours of employment of hospital workers by occupational category. The impact of variation in occupational mix on the computation of the area wage index was to be included. The report contains recommendations regarding the feasibility and desirability of modifying the area wage index. (3/91)

Analysis of the Secretary's Legislative Proposal Eliminating Separate Average Standardized Amounts

The Omnibus Budget Reconciliation Act of 1989 required the Secretary of Health and Human Services to prepare a legislative proposal eliminating separate average standardized amount for hospitals located in large urban, other urban, and rural areas. It also directed ProPAC to submit a report to Congress analyzing this proposal and its impact on hospitals. (This report will be issued after the Secretary's proposal becomes available.)

Passthrough Payments for Hemophilia Inpatients

The Omnibus Budget Reconciliation Act of 1989 required the Commission to submit a report to Congress that contains recommendations on paying for the cost of administering blood clotting factors to individuals with hemophilia. (5/91)

The Commission's Views on Capital Payment Policy

This report will summarize the Commission's analyses of hospital capital costs and views on Medicare's capital payment policy. ProPAC's objectives for evaluating capital payment, along with supporting data and opinions, will be presented. The Commission will also comment on the Secretary of Health and Human Services' prospective payment proposal. (This report will be issued after the Secretary's proposal becomes available.)

Nurse Practitioners and Other Non-Physician Providers

The Senate Committee on Appropriations asked that ProPAC study the use of nurse practitioners and other non-physician providers in settings other than acute care facilities and long-term care institutions. Information on this topic will be included in ProPAC's June 1991 report, *Medicare Prospective Payment and the American Health Care System*. (6/91)

Report on Rural Hospitals

The Senate Committee on Appropriations requested a report examining the changes made in rural hospital payment policies and their fiscal impacts. In addition, ProPAC was requested to analyze the effect of low volume on overhead costs and payments. This report will also examine the relationship between volume and financial performance,

the adequacy of national DRG weights for rural hospitals, and alternative definitions of sole community hospitals. (8/91)

Study of Medicaid Payments to Hospitals

The Omnibus Budget Reconciliation Act of 1990 requires the Commission to conduct a study of Medicaid hospital payment rates. The study should examine the relationship between Medicaid and Medicare payments, and the financial condition of the hospitals receiving Medicaid payments. Special attention will be given to hospitals in urban areas that treat large numbers of people eligible for Medicaid and other low-income persons. (10/91)

Medicare Payment for Hospital Outpatient Services: The Views of the Prospective Payment Assessment Commission

The Omnibus Budget Reconciliation Act of 1990 requires the Secretary of Health and Human Services to develop, by September 1, 1991, a model system for Medicare payment of hospital outpatient services. The Commission is required submit an analysis of and comments on the proposal to the Committee on Finance of the Senate and the Committee on Ways and Means and Energy and Commerce of the House of Representatives. (3/92)

Prospective Payment System for Skilled Nursing Facilities

The Omnibus Budget Reconciliation Act of 1990 requires the Secretary of Health and Human Services to develop a proposal to modify the current system under which skilled nursing facilities receive payment for extended care services under Part A of the Medicare program or to develop a proposal to replace such system with a system under which such payments would be made on a basis of prospectively determined rates. The Commission is required to submit an analysis of and comments on the proposal to the Committee on Finance of the Senate and the Committee on Ways and Means and Energy and Commerce of the House of Representatives. (3/92)

Study of End-Stage Renal Disease Composite Rates

The Omnibus Budget Reconciliation Act of 1990 requires the Commission to conduct a study to

determine the costs, services, and profits associated with various modalities of dialysis treatments provided to end-stage renal disease patients. This study will be the basis for recommendations regarding the method and level of payments for the facility component of dialysis services beginning in fiscal year 1993. The methodology to be used to update payment for subsequent fiscal years should also be included. As part of its annual March report, starting with fiscal year 1993, ProPAC is required to report its recommendations to Congress on an appropriate payment update factor. (6/92)

Development of National Prospective Payment Rates for Current Non-PPS Hospitals

The Omnibus Budget Reconciliation Act of 1990 requires the Secretary of Health and Human Services to develop a proposal to modify the current system under which hospitals that are not subsection (d) hospitals (as defined in section 1886(d)(1)(B) of the Social Security Act) receive payment for the operating and capital-related costs of inpatient hospital services under Part A of the Medicare program or a proposal to replace such system with a system under which such payments would be made on the basis of nationally determined average standardized amounts. The Commission is required submit an analysis of and comments on the proposal to the Committee on Finance of the Senate and the Committee on Ways and Means and Energy and Commerce of the House of Representatives. (6/92)

Prospective Payment System for Home Health Services

The Omnibus Budget Reconciliation Act of 1990 requires the Secretary of Health and Human Services to develop a proposal to modify the current system under which Medicare pays for home health services or a proposal to replace such system with a system under which such payments would be made on the basis of prospectively determined rates. The Commission is required submit an analysis of and comments on the proposal to the Committee on Finance of the Senate and the Committee on Ways and Means and Energy and Commerce of the House of Representatives. (3/94)

Appendix C. ProPAC Operations

BIOGRAPHICAL SKETCHES OF COMMISSIONERS

Stuart H. Altman, Chairman

Stuart H. Altman, dean of the Florence Heller Graduate School for Social Policy, Brandeis University, and Sol C. Chaikin Professor of National Health Policy (currently on leave as interim president of Brandeis University), is an economist whose research interests are primarily in the area of Federal health policy. He has been at Brandeis since 1977. Between 1971 and 1976, Dean Altman was deputy assistant secretary for planning and evaluation/health at the Department of Health, Education and Welfare (now the Department of Health and Human Services). From 1973 to 1974, he also served as the deputy director for health of the President's Cost of Living Council, where he was responsible for developing the council's program on health care cost containment. Dean Altman is a member of the Institute of Medicine of the National Academy of Sciences and former member of its governing council; on the board of Beth Israel Hospital (Boston); and chairman of the board of the Health Policy Center at Brandeis. He is a past president of the National Association for Health Services Research and former board member of The Robert Wood Johnson Clinical Scholars Program. Dean Altman received both an M.A. and a Ph.D. in economics from the University of California (Los Angeles).

Richard A. Berman

Richard A. Berman is a vice president of Korn/Ferry International, and is responsible for the health care practice in the firm's Eastern region. Mr. Berman was previously a special consultant to McKinsey & Company, Inc., in New York, a position he held since 1987. In addition, he serves several organizations, including the executive committee of the New York City Public Development Corporation, the New York State Council on Health Care Financing, and the National Advisory Council for the Center for Hospital Finance and Management at The Johns Hopkins University. Previously, he was a management consultant and a candidate

in the Democratic primary in the 20th Congressional District, Mr. Berman was the executive vice president of New York University Medical Center from 1983 to 1986. At that time he was also a professor in health care management at the School of Medicine. Mr. Berman worked for New York State from 1977 to 1983, first as director of the Office of Health Systems Management and later as the commissioner of the Division of Housing and Community Renewal. Before that, he was assistant dean of Cornell University Medical School, as well as associate director for ambulatory services at the New York Hospital, clinical assistant professor in the Departments of Medicine and Public Health at Cornell University Medical School, and senior program consultant and program director for The Robert Wood Johnson Foundation. Prior to these positions, Mr. Berman was special assistant for policy development, Office of the Assistant Secretary for Health, Department of Health, Education and Welfare. He also served in the Office of Health in the Economic Stabilization Program, the University of Utah Hospital, and the U.S. Public Health Service. Mr. Berman received B.A., M.B.A., and M.H.A. degrees from the University of Michigan.

James D. Bernstein

James D. Bernstein is director of the North Carolina Office of Rural Health and Resource Development and president, North Carolina Foundation for Alternative Health Programs, Inc. He has also been a research associate with the Health Services Research Center at the University of North Carolina at Chapel Hill since 1970. Mr. Bernstein has adjunct appointments with the University of North Carolina School of Medicine and with the Duke University School of Medicine. Between 1970 and 1973, he was a Fellow at the Career Development Program in Global Community Health, a part of the U.S. Department of Health, Education and Welfare. Before that he worked with the Santa Fe Service Unit of the Indian Health Service. Mr. Bernstein has held a variety of professional positions, including vice chairman of the North Carolina Health Insurance Trust Commission, chairman of the rural health steering committee of the National Academy for State Health

Policy, and member of the national advisory committee for The Robert Wood Johnson Foundation Hospital Based Rural Health Care Program. He has also been a consultant on projects related to indigent care, practice pattern variations, and cost-effective medical care. Mr. Bernstein received a B.A. in political economy from The Johns Hopkins University and an M.H.A. from the University of Michigan.

Curtis C. Erickson

Curtis C. Erickson is president emeritus and senior consultant with Great Plains Health Alliance, Inc., of Phillipsburg, Kansas. He served as president and CEO of this organization from 1959 to 1990 and as assistant director from 1955 to 1959. Having served the American Hospital Association (AHA) in many capacities, he became chairman of Regional Advisory Board 6 and was a trustee from 1987 to 1990. He has also chaired AHA's advisory panel to the Center for Small or Rural Hospitals and has been a member of the Council on Management, the Council on Federal Relations, and a representative to the House of Delegates. President of the Lutheran Hospital Association of America from 1974 to 1975, Mr. Erickson was also on the board of trustees from 1972 to 1982. He was president of the Kansas Hospital Association from 1965 to 1966, a member of the board of governors of the Healthcare Stabilization Fund for the Kansas Department of Insurance, and past district governor of Rotary International. From 1983 to 1986, Mr. Erickson served on The Robert Wood Johnson Foundation's National Advisory Committee for the Rural Hospital Program of Extended Care Services. Mr. Erickson is a member of the American College of Healthcare Executives. From 1951 to 1955, he served in the U.S. Air Force. He received a B.S. in business administration from Fort Hays Kansas State University in 1951.

William D. Fullerton

William D. Fullerton is an adjunct professor in the School of Medicine, University of North Carolina at Chapel Hill. From 1978 to 1984, he was principal and president of Health Policy Alternatives, Inc., where he is now a part-time consultant. The first deputy administrator of the Health Care Financing Administration (1977-78), Mr. Fullerton

was also a special consultant to the Secretary of the Department of Health, Education and Welfare. He served as chief of the professional health staff, Committee on Ways and Means, U.S. House of Representatives, from 1970 to 1976. Mr. Fullerton was the first executive secretary of the Health Insurance Benefits Advisory Council in 1965-66. Before that, he held various positions in the Social Security Administration. He is a member of the Institute of Medicine of the National Academy of Sciences. Mr. Fullerton received a B.A. from the University of Rochester.

William S. Hoffman

William S. Hoffman has been director of the Social Security Department of the International Union of the United Auto Workers since 1984. Previously, he was the assistant director and a consultant to the department. Mr. Hoffman is also director of the Michigan Health and Social Security Research Institute, Inc., where from 1973 to 1980 he was a senior research associate. An active participant in national and state health care issues, Mr. Hoffman has served on the Michigan Certificate of Need Commission, the Department of Health and Human Services's Council on Graduate Medical Education, the Department of Labor's Advisory Council on Employee Welfare and Pension Benefit Plans, the Governor's Task Force on Access to Health Care in Michigan, and the Institute of Medicine of the National Academy of Sciences. He served in various research and teaching capacities with the Social Science Research Center at Mercy College of Detroit, the Department of Sociology at Wayne State University, the Detroit Residential Manpower Center, the Boys Republic, and the Merrill Palmer Institute. Mr. Hoffman has written and spoken extensively on such issues as the use of prepaid mental health care services and organized labor's perspective on current health care issues and legislation. He received a B.A. in psychology from Otterbein College and M.A. and Ph.D. degrees in sociology from Wayne State University.

Larry L. Mathis

Larry L. Mathis is president and chief executive officer of The Methodist Hospital System in Houston, Texas. This system includes 12 member corporations and The Methodist Hospital. He has held

this position since 1983. Before that, Mr. Mathis held a number of positions at The Methodist Hospital. Mr. Mathis is a member of the board of trustees of the American Hospital Association and has been elected to serve on its executive committee. He was chairman of The Greater Houston Hospital Council, chairman of the Texas Hospital Association, and regent for Texas in the American College of Healthcare Executives. In addition, Mr. Mathis served as a member of the administrative board of the Association of American Medical Colleges's Council of Teaching Hospitals, and as chairman of the National Advisory Council on Health Care Technology Assessment from 1985 to 1988. He was a consultant to the Ministry of Education and Culture in Brazil. Mr. Mathis served in the U.S. Army from 1965 to 1970. He received a B.A. in social sciences from Pittsburgh State University in Kansas and an M.H.A. from Washington University.

Barbara J. McNeil

Barbara J. McNeil is a Ridley Watts professor of Health Care Policy, head of the Department of Health Care Policy at Harvard Medical School, and professor of radiology at Brigham and Women's Hospital. She is also director of the Center for Cost-Effective Care, Brigham and Women's Hospital. Dr. McNeil is a member of the Harvard-MIT Division of Health Sciences and Technology. Her professional and advisory activities are extensive. Dr. McNeil is a member of the joint committee of the American College of Radiology, the Association of University Radiologists, and the Society of Chairmen of Academic Radiology. She is also a member of the Fleischner Society, the Institute of Medicine of the National Academy of Sciences, and the National Council on Radiation Protection and Measurements. She serves on the American College of Radiology's committees on nuclear radiology and on quality assurance and efficacy. Formerly, Dr. McNeil was on the board of the Association for Health Services Research, the policy council of the Association for Public Policy Analysis and Management, the board of trustees of the Society for Medical Decision Making, and a member of the National Council on Health Care Technology. She has written five books and more than 150 professional articles and reports. Dr. McNeil has an A.B. in chemistry from Emmanuel

College, an M.D. from Harvard Medical School, and a Ph.D. in biological chemistry from Harvard University.

Kathryn M. Mershon

Kathryn M. Mershon is senior vice president at Humana, Inc., a position she has held since 1988. She previously served as Humana's vice president, nursing. She holds an adjunct assistant professorship of nursing at Spalding University. From 1971 to 1980, Ms. Mershon was associate executive director, nursing at St. Joseph Infirmary (now Humana Hospital Audubon) in Louisville, Kentucky. Before that, she was a clinical nursing specialist at St. Joseph Infirmary, clinical instructor at St. Francis Xavier Hospital School of Nursing, and a staff nurse. She has a distinguished list of professional and community activities, including board of governors of the Federation of American Health Systems, board member of the National League for Nursing, and editorial review board of *Nursing & Health Care*. She is a former trustee of Spalding University and member of the advisory board of the University of Louisville's School of Nursing. Ms. Mershon also served on the Louisville Board of Health and on the board of governors of Louisville General Hospital. She has made numerous public presentations on a variety of nursing-related issues. Ms. Mershon received a B.S. in nursing from Spalding University and an M.S. in nursing from St. Louis University.

Donald R. Oder

Donald R. Oder is senior vice president and chief operating officer of Rush-Presbyterian-St. Luke's Medical Center in Chicago, where he formerly was senior vice president. Before that, he was audit manager with Arthur Andersen & Co. in Chicago. Mr. Oder has held various academic appointments, and is currently professor in the Department of Health Systems Management at the Rush University College of Health Sciences. He is a member of and has held leadership positions in several professional associations, including the American College of Healthcare Executives, the American Hospital Association, the Illinois Hospital Association, Voluntary Hospitals of America, the American Institute of Certified Public Accountants, and the Illinois C.P.A. Society. He has served on the board of directors of the Better

Business Bureau of Metropolitan Chicago, Inc., and on the occupational health committee of the Chicago Association of Commerce and Industry. Mr. Oder received a B.S. from Wichita State University, a C.P.A. certificate from the University of Illinois, and an M.B.A. from the University of Chicago.

Elliott C. Roberts, Sr.

Elliott C. Roberts, Sr., is assistant secretary and chief executive officer of Charity Hospital at New Orleans, a position he has held since 1984. In this capacity, he implemented a reorganization of the Louisiana State Department of Health and Human Resources. Mr. Roberts holds an assistant professorship in the Department of Public Health and Preventive Medicine at Louisiana State University Medical School. He is also a preceptor in the Department of Health Systems Management at Tulane University School of Public Health and Tropical Medicine. From 1980 to 1984, Mr. Roberts was chief executive officer of Cook County Hospital in Chicago. Before that, he was vice president and associate project director for Hyatt Medical Management Services, as well as commissioner of hospitals and executive director of Detroit General Hospital. Mr. Roberts served as executive director at both Harlem Hospital Center (1969–72) and Mercy Douglass Hospital in Philadelphia (1965–69). An active member of the American Hospital Association, Mr. Roberts served on its board of trustees for five years as well as on the nominating committee, House of Delegates, and in other capacities. He has held similar positions of responsibility at the National Association of Public Hospitals and the Association of American Medical Colleges/Council on Teaching Hospitals. In addition to many other appointments, Mr. Roberts served on the Secretary's Commission on Nursing, Department of Health and Human Services. He received an M.A. in business administration-hospital administration from the George Washington University.

J. Michael Sadaj

J. Michael Sadaj has been medical director of respiratory care services and an active staff member at St. James Community Hospital in Butte, Montana, since 1979. He is presently secretary-treasurer of the medical staff there as well. In

addition, Dr. Sadaj practices with the Rocky Mountain Service Corporation, specializing in internal medicine and pulmonary diseases. Dr. Sadaj formerly was medical director of respiratory therapy at Silver Bow General Hospital in Butte. He served on the executive committee and the infection control committee of both hospitals. Dr. Sadaj also chaired the medical section at St. James Community Hospital (1980–83) and at Silver Bow General Hospital (1980–81). From 1974 to 1979, Dr. Sadaj was a resident in internal medicine and a Fellow in pulmonary diseases at the University of Nebraska Medical Center in Omaha. He has been a member of and held leadership positions in several organizations, including the Nebraska Medical Association, American Medical Association, Montana Medical Association, and the Montana Professional Assistance Program. In 1984, he was elected to a local government study commission. Dr. Sadaj received his B.S. and M.D. degrees from the University of Nebraska Medical Center.

Leonard D. Schaeffer

Leonard D. Schaeffer is chairman of the board and chief executive officer of Blue Cross of California. He came to Blue Cross from his position as president of Group Health, Inc. Mr. Schaeffer was formerly executive vice president and chief operating officer of the Student Loan Marketing Association. He served as administrator of the Health Care Financing Administration, Department of Health and Human Services, and as assistant secretary for management and budget in the Department of Health, Education and Welfare. Before that, Mr. Schaeffer was vice president of Citibank, N.A. He has held various positions with the state of Illinois, including director of the Bureau of Budget, head of the State Planning Office, chairman of the Illinois Capital Development Board, and deputy director for management, Illinois Department of Mental Health and Developmental Disabilities. He was previously vice president of a private investment banking firm, and a consultant for Arthur Andersen & Co. A Kellogg Fellow, Mr. Schaeffer is a member of the board of the University of Southern California, School of Public Administration; the Cultural Foundation; Town Hall of California; United Way; and *Managed Healthcare*. Mr. Schaeffer is also an International Fellow at the King's Fund College, London, England. He was graduated from Princeton University.

Jack K. Shelton

Jack K. Shelton is manager of the Employee Insurance Department of the Ford Motor Company, which he joined in 1956. He is responsible for the financial control and analysis of nearly all employee benefit plans. In this capacity, he participates in union negotiations, relations with insurance carriers, and financial control of company-administered plans. He also reviews changes in wage and benefit programs for foreign subsidiaries. Mr. Shelton is actively involved in a number of local and national health care organizations, serving as a director of the National Fund for Medical Education, a director of Blue Cross and Blue Shield of Michigan, and a member of the Statewide Health Coordinating Council of Michigan. In 1985, he was a member of an Office of Technology Assessment Advisory Panel on Alternative Physician Payments for Medicare and chairman of the Employer Prospective Payment Advisory Commission for the Washington Business Group on Health. He is past chairman of the National Industry Council on HMO Development, the Michigan Health Economics Coalition, the Michigan Hospital Capacity Reduction Corporation, and the Health Alliance Plan (Michigan's largest HMO). Mr. Shelton received B.S. and M.S. degrees in industrial psychology from Oklahoma State University.

J. B. Silvers

J. B. Silvers is co-director of the Health Systems Management Center of Case Western Reserve University. He is also the William M. and Elizabeth C. Treuhaft Professor of Management and professor of banking and finance at the university's Weatherhead School of Management, and professor of epidemiology and biostatistics at the School of Medicine. Before joining Case Western Reserve, Dr. Silvers was a faculty member at the business schools of Indiana, Harvard, and Stanford. At Harvard, he directed the Program for Financial Management and Strategy in Health for five years and served on the faculty of the Program for Health Systems Management for 10 years. Dr. Silvers served the Department of Health and Human Services as a member of the Secretary's Commission on Nursing and as a member of the Health Care Technology Study Section of the National Center for Health Services Research. During 1983-84, he chaired the Governor's Commission on Ohio Health

Care Costs. He has written extensively in the fields of corporate financial management, and health care and hospital finance. He also serves as a consultant or adviser to numerous private organizations. Dr. Silvers received a Ph.D. in finance and economics from Stanford University, and M.S. and B.S. degrees from Purdue University in industrial administration and engineering, respectively.

Bruce C. Vladeck

Bruce C. Vladeck is president of the United Hospital Fund of New York. Immediately before joining that organization, Dr. Vladeck was assistant vice president of The Robert Wood Johnson Foundation. From 1979 to 1982, he was assistant commissioner for health planning and resources development of the New Jersey State Department of Health. In that position, he was director of the State Health Planning and Development Agency, where he oversaw the implementation of New Jersey's all-payer, DRG-based hospital prospective payment system. Dr. Vladeck taught for four and one-half years at Columbia University, and has served on the adjunct faculty of Rutgers, Princeton, the College of Medicine and Dentistry of New Jersey, and New York University. He is the author of *Unloving Care: The Nursing Home Tragedy*, and has written numerous articles and book chapters on health policy, health care finance, and health politics. He is a member of the board of directors of the New York City Health and Hospitals Corporation, the executive committee of the New York Blood Center, the advisory committee to the Wagner School of Public Service of New York University, the visiting committee of the School of Management and Urban Policy of the New York School for Social Research, and the Institute of Medicine of the National Academy of Science. He received his bachelor's degree in government from Harvard College and M.A. and Ph.D. degrees in political science from the University of Michigan.

Sankey V. Williams

Sankey V. Williams is director of The Robert Wood Johnson Foundation Clinical Scholars Program at the University of Pennsylvania and serves as acting chief, Section of General Internal Medicine. In addition to these responsibilities, Dr. Williams is a professor of medicine at the University

of Pennsylvania and professor of health care systems at the university's Wharton School. He is also associate director for medical affairs in the Wharton School's Leonard Davis Institute of Health Economics. Dr. Williams is an associate in the Clinical Epidemiology Unit of the university and formerly served as associate director for clinical research at the University of Pennsylvania's Center for the Study of Aging. He is also chairman of the Health Services Research Development Subcommittee, the Agency for Health Care Policy and Research. He was a Henry J. Kaiser Family Foundation Faculty Scholar in general internal medicine

from 1981 to 1986. Dr. Williams currently serves as an associate editor of the *Journal of General Internal Medicine*. Certified by the American Board of Internal Medicine, Dr. Williams has published and lectured widely in many fields, including medical decision making, physician behavior, and hospital case-mix management. He received a B.A. from Princeton University and an M.D. from Harvard Medical School. Dr. Williams completed his internship and residency in medicine at the Hospital of the University of Pennsylvania and was a Robert Wood Johnson Foundation Clinical Scholar at the University.

COMMISSION STRUCTURE, ASSIGNMENTS, AND MEETING DATES

Structure and Assignments

Subcommittee on Data Development and Research

The subcommittee is charged with developing and monitoring the Commission's extramural research agenda. In consultation with interested persons and experts, the subcommittee identifies research questions relevant to the Commission's responsibilities and specifies the most appropriate analytic means to answer those questions. In addition, the subcommittee is responsible for identifying data needs and the availability of data sources to meet these research objectives. The subcommittee presents options and recommendations on the appropriate research agenda and data development to the Commission.

Members

Sankey V. Williams, *Chair*
James D. Bernstein
William D. Fullerton
Barbara J. McNeil
J.B. Silvers
Bruce C. Vladeck

Subcommittee on Hospital Productivity and Cost-Effectiveness

The subcommittee is charged with identifying and examining procedures and issues related to the measurement of productivity and cost-effectiveness, including an examination of the hospital market basket and related variations in the provision of hospital services. In consultation with interested persons and experts, the subcommittee will analyze issues related to hospital productivity and cost-effectiveness and will present its findings, including options and recommendations, to the full Commission.

Members

Bruce C. Vladeck, *Chair*
Richard A. Berman
Curtis C. Erickson
William S. Hoffman
Kathryn M. Mershon
Elliott C. Roberts, Sr.
Leonard D. Schaeffer
Jack K. Shelton

Subcommittee on Diagnostic and Therapeutic Practices

The subcommittee is charged with identifying and examining technological and scientific advances, changing treatment patterns, and quality of care issues. The subcommittee is also responsible for examining the safety, efficacy, and relative cost-effectiveness of medical and surgical procedures, services, and technologies as they relate to the Commission's primary responsibilities. In consultation with interested persons and experts, the subcommittee will analyze issues related to the assessment of new and existing procedures, services, and technologies. It will present its findings, including options and recommendations, to the full Commission.

Members

Barbara J. McNeil, *Chair*
James D. Bernstein
William D. Fullerton
Larry L. Mathis
Donald R. Oder
J. Michael Sadaj
J.B. Silvers
Sankey V. Williams

**ProPAC-PPRC
Liaison Subcommittee**

The subcommittee is responsible for information exchange and coordination of the work of ProPAC and the Physician Payment Review Commission (PPRC). The subcommittee will identify areas of mutual or overlapping interest and foster staff and commission collaboration where appropriate.

Members

Richard A. Berman, ProPAC, Co-Chair
Walter McNerney, PPRC, Co-Chair
John M. Eisenberg, PPRC
William D. Fullerton, ProPAC
Walter B. Maher, PPRC
Jack K. Shelton, ProPAC

Meeting Dates

**Subcommittee on Data
Development and Research**

April 26, 1990
September 12, 1990
December 12, 1990

**Subcommittee on Hospital
Productivity and Cost-Effectiveness**

April 25, 1990
June 12, 1990
September 11, 1990
October 23, 1990
December 11, 1990

**Subcommittee on Diagnostic
and Therapeutic Practices**

April 25, 1990
June 12, 1990
September 11, 1990
October 23, 1990
December 11, 1990

**ProPAC-PPRC Liaison
Subcommittee**

September 12, 1990

**Prospective Payment
Assessment Commission**

April 25-26, 1990
June 12-13, 1990
September 11-12, 1990
October 23-24, 1990
December 11-12, 1990
January 29-30, 1991

STATUTORY MANDATE OF THE COMMISSION

Congress established the Prospective Payment Assessment Commission (ProPAC) in Pub. L. 98-21 (the Social Security Amendments of 1983) on April 20, 1983. The current responsibilities of ProPAC are set forth in sections 1862(a) and 1886 of the Social Security Act. Further responsibilities are set forth in various Acts and conference reports. The passages of the relevant legislative sources, as amended through 1990, follow.

Section 1886(d) of the Social Security Act

(4)(C)(i) The Secretary shall adjust the classification and weighting factors established under subparagraphs (A) and (B), for discharges in fiscal year 1988 and at least annually thereafter, to reflect changes in treatment patterns, technology, and other factors which may change the relative use of hospital resources.

(ii) For discharges in fiscal year 1990, the Secretary shall reduce the weighting factor for each diagnosis-related group by 1.22 percent.

(iii) Any such adjustment under clause (i) for discharges in a fiscal year (beginning with fiscal year 1991) shall be made in a manner that assures that aggregate payments under this subsection for discharges in the fiscal year are not greater or less than those that would have been made for discharges in the year without such adjustment.

(iv) The Secretary shall include recommendations with respect to adjustments to weighting factors under clause (i) in the annual report to Congress required under subsection (e)(3)(B).

Section 1886(e)(2) through (6) of the Social Security Act

(2)(A) The Director of the Congressional Office of Technology Assessment (hereinafter in this subsection referred to as the "Director" and the "Office," respectively) shall provide for appointment of a Prospective Payment Assessment Commission (hereinafter in this subsection referred to as the "Commission"), to be composed of independent experts appointed by the Director (without regard to the provisions of title 5, United States Code, governing appointments in the competitive ser-

vice). The Commission shall review the applicable percentage increase factor described in subsection (b)(3)(B) and make recommendations to the [Congress] on the appropriate percentage change which should be effected for hospital inpatient discharges under subsections (b) and (d) for fiscal years beginning with fiscal year 1986. In making its recommendations, the Commission shall take into account changes in the hospital market-basket described in subsection (b)(3)(B), hospital productivity, technological and scientific advances, the quality of health care provided in hospitals (including the quality and skill level of professional nursing required to maintain quality care), and long-term cost-effectiveness in the provision of inpatient hospital services.

(B) In order to promote the efficient and effective delivery of high-quality health care services, the Commission shall, in addition to carrying out its functions under subparagraph (A), study and make recommendations for each fiscal year regarding changes in each existing reimbursement policy under this title under which payments to an institution are based upon prospectively determined rates and the development of new institutional reimbursement policies under this title, including recommendations related to payments during such fiscal year under the prospective payment system established under this section for determining payments for the operating costs of inpatient hospital services, including changes in the number of diagnosis-related groups used to classify inpatient hospitals discharges under subsection (d), adjustment to such groups to reflect severity of illness, and changes in the methods by which hospitals are reimbursed for capital-related costs, together with general recommendations on the effectiveness and quality of health care delivery systems in the United States and the effects on such systems of institutional reimbursements under this title.

(C) By not later than June 1 of each year, the Commission shall submit a report to Congress containing an examination of issues affecting health care delivery in the United States, including issues relating to —

(i) trends in health care costs;

(ii) the financial condition of hospitals and the effect of the level of payments made to hospitals under this title on such condition;

(iii) trends in the use of health care services; and

(iv) new method used by employers, insurers, and others to constrain growth in health care costs.

(3)(A) The Commission not later than March 1, before the beginning of each fiscal year (beginning with fiscal year 1989) shall report its recommendations to the [Congress] on an appropriate change factor which should be used for inpatient hospital services in that fiscal year, together with its general recommendations under paragraph (2)(B) regarding the effectiveness and quality of health care delivery systems in the United States.

(B) The Secretary, not later than April 1, 1987, for fiscal year 1988 and not later than March 1, before the beginning of each fiscal year (beginning with fiscal year 1989), shall report to the Congress the Secretary's initial estimate of the percentage change that the Secretary will recommend under paragraph (4) with respect to that fiscal year.

(4)(A) Taking into consideration the recommendations of the Commission, the Secretary shall recommend for each fiscal year (beginning with fiscal year 1988) an appropriate change factor for inpatient hospital services for discharges in that fiscal year which will take into account amounts necessary for the effective delivery of medically appropriate and necessary care of high quality. The appropriate change factor may be different for all large urban subsection (d) hospitals, other urban subsection (d) hospitals, rural subsection (d) hospitals, urban subsection (d) Puerto Rican hospitals, rural subsection (d) Puerto Rican hospitals, and all other hospitals and units not paid under subsection (d), and may vary amount such other hospitals and units.

(B) In addition to the recommendation made under subparagraph (A), the Secretary shall, taking into consideration the recommendations of the Commission under paragraph (2)(B), recommend for each fiscal year (beginning with fiscal year 1992) other appropriate changes in each existing reimbursement policy under this title under which payments to an institution are based upon prospectively determined rates.

(5) The Secretary shall cause to have published in the *Federal Register*, not later than –

(A) the May 1 before each fiscal year (beginning in fiscal year 1986), the Secretary's proposed recommendations under paragraph (4) for the fiscal year for public comment, and

(B) the September 1 before such fiscal year after such consideration of public comment on the proposal as is feasible in the time available, the Secretary's final recommendations under such paragraph for that year.

The Secretary shall include in the publication referred to in subparagraph (A) for a fiscal year the report of the Commission's recommendations submitted under paragraph (3) for that fiscal year. To the extent that the Secretary's recommendations under paragraph (4) differ from the Commission's recommendations for the fiscal year, the Secretary shall include in the publication referred to in subparagraph (A) an explanation of the Secretary's grounds for not following the Commission's recommendations.

(6)(A) The Commission shall consist of 17 individuals. Members of the Commission shall first be appointed no later than April 1, 1984, for a term of three years, except that the Director may provide initially for such shorter terms as will insure that (on a continuing basis) the terms of no more than seven members may expire in any one year.

(B) The membership of the Commission shall include individuals with national recognition for their expertise in health economics, hospital reimbursement, hospital financial management, and other related fields, who provide a mix of different professionals, broad geographic representation, and a balance between urban and rural representatives, including physicians and registered professional nurses, employers, third party payers, individuals skilled in the conduct and interpretation of biomedical, health services, and health economics research and individuals having expertise in the research and development of technological and scientific advances in health care.

(C) Subject to such review as the Office deems necessary to assure the efficient administration of the Commission, the Commission may –

(i) employ and fix the compensation of an Executive Director (subject to the approval of the Director of the Office) and such other personnel (not to

exceed 25) as may be necessary to carry out its duties (without regard to the provisions of the title 5, United States Code, governing appointments in the competitive service);

(ii) seek such assistance and support as may be required in the performance of its duties from appropriate Federal departments and agencies;

(iii) enter into contracts or make other arrangements, as may be necessary for the conduct of the work of the Commission (without regard to section 3709 of the Revised Statutes (41 U.S.C. 5));

(iv) make advance, progress, and other payments which relate to the work of the Commission;

(v) provide transportation and subsistence for persons serving without compensation; and

(vi) prescribe such rules and regulations as it deems necessary with respect to the internal organization and operation of the Commission.

Section 10(a)(1) of the Federal Advisory Committee Act shall not apply to any portion of a Commission meeting if the Commission, by majority vote, determines that such portion of such meeting should be closed.

(D) While serving on the business of the Commission (including travel-time), a member of the Commission shall be entitled to compensation at the per diem equivalent of the rate provided for level IV of the Executive Schedule under section 5315 of title 5, United States Code; and while so serving away from home and his regular place of business, a member may be allowed travel expenses, as authorized by the Chairman of the Commission. Physicians serving as personnel of the Commission may be provided a physician comparability allowance by the Commission in the same manner as Government physicians may be provided such an allowance by an agency under section 5948 of title 5, United States Code, and for such purpose subsection (i) of such section shall apply to the Commission in the same manner as it applies to the Tennessee Valley Authority. For purposes of pay (other than pay of members of the Commission) and employment benefits, rights, and privileges, all personnel of the Commission shall

be treated as if they were employees of the United States Senate.

(E) In order to identify medically appropriate patterns of health resources use in accordance with paragraph (2), the Commission shall collect and assess information on medical and surgical procedures and services, including information on regional variations of medical practice and lengths of hospitalization and on other patient-care data, giving special attention to treatment patterns for conditions which appear to involve excessively costly or inappropriate services not adding to the quality of care provided. In order to assess the safety, efficacy, and cost-effectiveness of new and existing medical and surgical procedures, the Commission shall, in coordination to the extent possible with the Secretary, collect and assess factual information, giving special attention to the needs of updating existing diagnosis-related groups, establishing new diagnosis-related groups, and making recommendations on relative weighting factors for such groups to reflect appropriate differences in resource consumption in delivering safe, efficacious, and cost-effective care. In collecting and assessing information, the Commission shall –

(i) utilize existing information, both published and unpublished, where possible, collected and assessed either by its own staff or under other arrangements made in accordance with this paragraph;

(ii) carry out, award grants or contracts for, original research and experimentation, including clinical research, where existing information is inadequate for the development of useful and valid guidelines by the Commission; and

(iii) adopt procedures allowing any interested party to submit information with respect to medical and surgical procedures and services (including new practices, such as the use of new technologies and treatment modalities), which information the Commission shall consider in making reports and recommendations to the Secretary and Congress.

(F) The Commission shall have access to such relevant information and data as may be available from appropriate Federal agencies and shall assure that its activities, especially the conduct of original

research and medical studies, are coordinated with the activities of Federal agencies.

(G)(i) The Office shall have unrestricted access to all deliberations, records, and data of the Commission, immediately upon its request.

(ii) In order to carry out its duties under this paragraph, the Office is authorized to expend reasonable and necessary funds as mutually agreed upon by the Office and the Commission. The Office shall be reimbursed for such funds by the Commission from the appropriations made with respect to the Commission.

(H) The Commission shall be subject to periodic audit by the General Accounting Office.

(I)(i) There are authorized to be appropriated such sums as may be necessary to carry out the provision of this paragraph.

(ii) Eighty-five percent of such appropriation shall be payable from the Federal Hospital Insurance Trust Fund, and 15 percent of such appropriation shall be payable from the Federal Supplementary Medical Insurance Trust Fund.

(J) The Commission shall submit requests for appropriations in the same manner as the Office submits requests for appropriations, but amounts appropriated for the Commission shall be separate from amounts appropriated for the Office.

Section 1862(a) of the Social Security Act

(a) Notwithstanding any other provision of this title, no payment may be made under part A or part B for any expenses incurred for items or services –

(1)(A) which, except for items and services described in subparagraph (B), (C), or (D), are not reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member,

(B) in the case of items and services described in section 1861(s)(10), which are not reasonable and necessary for the prevention of illness,

(C) in the case of hospice care, which are not reasonable and necessary for the palliation or management of terminal illness,

(D) in the case of clinical care items and services provided with the concurrence of the Secretary and with respect to research and experimentation conducted by, or under contract with, the Prospective Payment Assessment Commission or the Secretary, which are not reasonable and necessary to carry out the purposes of section 1886(e)(6), . . .

Section 1135(d) of the Social Security Act

(6)(A) The Secretary shall develop a model system for payment for outpatient hospitals services other than ambulatory surgery.

(B) The Secretary shall submit a report to Congress on the model payment system under subparagraph (A) by January 1, 1991.

(7) The Secretary shall solicit the view of the Prospective Payment Assessment Commission in developing the systems under paragraphs (1) and (6) and shall include in the Secretary's reports under this subsection any views the Commission may submit with respect to such systems.

Section 9114 of the Consolidated Omnibus Budget Reconciliation Act of 1985, Pub. L. 99-272

(a) Disclosure of Information. – The Secretary of Health and Human Services shall make available to the Prospective Payment Assessment Commission, the Congressional Budget Office, and the Congressional Research Service the most current information on the payments being made under section 1886 of the Social Security Act to individual hospitals. Such information shall be made available in a manner that permits examination of the impact of such section on such hospitals.

(b) Confidentiality. – Information disclosed under subsection (a) shall be treated as confidential and shall not be subject to further disclosure in a manner that permits the identification of individual hospitals.

Section 6003(i) of the Omnibus Budget Reconciliation Act of 1989, Pub. L. 101-239 Legislative Proposal Eliminating Separate Average Standardized Amounts

(1) In General. – The Secretary of Health and Human Services (hereafter referred to as the

“Secretary”) shall design a legislative proposal eliminating the system of determining separate standardized amounts for subsection (d) hospitals (as defined in section 1886(d)(1)(B) of the Social Security Act) classified as being located in large urban, other urban, or rural areas under section 1886(d)(2)(D) of such Act, and shall include in such proposal the following –

(A) A transition period beginning in fiscal year 1992 during which a single rate for determining payment to hospitals in all areas shall be phased in which such single rate to be completely in effect by fiscal year 1995.

(B) Recommendations, where appropriate, for modifying or maintaining additional payments or adjustments under title XVIII of the Social Security Act for teaching hospitals, rural referral centers, sole community hospitals, disproportionate share hospitals, and outlier cases, and for creating additional payments or adjustments where deemed appropriate by the Secretary.

(C) Recommendations with respect to recalculating standardized amounts to reflect information from more recent cost reporting periods.

(D) Recommendations, where appropriate, for modifying reimbursement for hospitals that are not subsection (d) hospitals under title XVIII of such Act.

(E) A recommendation for a methodology to reflect the severity of illness of different patients within the same diagnosis related group (as determined in section 1886(d)(4)(B) of such Act).

(2) Report to Congress and ProPAC. – (A) Not later than October 1, 1990, the Secretary shall submit the proposal described in paragraph (1) and an accompanying analysis of the impact of the proposed elimination of separate average standardized amounts on various categories of hospitals to Congress and the Prospective Payment Assessment Commission.

(B) Not later than February 1, 1991, the Prospective Payment Assessment Commission and the Director of the Congressional Budget Office shall each prepare and submit to Congress a report analyzing the legislative proposal submitted under subparagraph (A), and shall include in such report

an analysis of the probable impact of such legislation on hospitals participating in the Medicare program.

Section 6011 of the Omnibus Budget Reconciliation Act of 1989, Pub. L. 101-239 Pass Through Payments for Hemophilia Inpatients

(a) Pass Through Payment for Hemophilia Inpatients. – The second sentence of section 1886(a)(4) of the Social Security Act . . . is amended to read as follows –

For purposes of this section, the term “operating cost of inpatient hospital services” . . . does not include . . . costs with respect to administering blood clotting factors to individual with hemophilia.

(b) Determining Payment Amount. – The Secretary of Health and Human Services shall determine the amount of payment made to hospitals under part A of title XVIII of the Social Security Act for the costs of administering blood clotting factors to individuals with hemophilia by multiplying a predetermined price per unit of blood clotting factor (determined in consultation with the Prospective Payment Assessment Commission) by the number of units provided to the individual.

(c) Recommendations on Payments. – The Prospective Payment Assessment Commission and the Health Care Financing Administration shall develop recommendations with respect to payments under part A of title XVIII of the Social Security Act for the cost of administering blood clotting factors to individuals with hemophilia, and shall submit such recommendations to Congress not later than 18 months after the date of enactment of this Act.

(d) Effective Date. – The amendment made by paragraph (1) shall apply with respect to items furnished 6 months after the date of enactment of this Act and shall expire 2 years after the date of enactment of this Act.

Section 6137 of the Omnibus Budget Reconciliation Act of 1989, Pub. L. 101-239 ProPAC Study of Payments for Services in Hospital Outpatient Departments

(a) In General. – The Prospective Payment Assessment Commission shall conduct a study and

submit a report to Congress by no later than July 1, 1990, on payment under title XVIII of the Social Security Act for hospital outpatient services. Such study shall include an examination of –

(1) the sources of growth in spending for hospital outpatient services;

(2) the differences between the costs of delivering services in a hospital outpatient department as opposed to providing similar services in other appropriate settings (including ambulatory surgery centers and physician offices);

(3) the effects on outpatient hospital costs of the step-down method used to allocate hospital capital between inpatient and outpatient departments and the extent to which hospital outpatient costs were affected by the implementation of the prospective payment system of payment for inpatient hospital services and by increased review of such services by peer review organizations; and

(4) alternative methods for reimbursing hospitals for services in outpatient departments under the Medicare program, including prospective payment methods, fee schedules, and other such methods as the Commission may consider appropriate.

(b) Reports. – (1) By not later than July 1, 1990, the Commission shall submit a report to Congress on the study conducted under section (a) with respect to the portions of the study described in paragraphs (1), (2), and (3) of such subsection, and shall include in the report such recommendations as the Commission deems appropriate.

(2) By not later than March 1, 1991, the Commission shall submit a report to Congress on the study conducted under section (a) with respect to the portions of the study described in paragraph (4), and shall include such recommendations as the Commission deems appropriate.

Section 4002(d)(2) of the Omnibus Budget Reconciliation Act of 1990, Pub. L. 101-508
Study of the Area Wage Index Adjustments on Professional Occupational Component

(A) Study. – The Prospective Payment Assessment Commission shall examine available data from States and other sources measuring earnings and paid hours of employment of hospital workers

by occupational category, and shall include in such examination an analysis of the impact of variation in occupational mix on the computation of the area wage index determined under section 1886(d)(3)(E) of the Social Security Act.

(B) Report to Congress. – In its March 1991 report, the Commission shall include recommendations regarding the feasibility and desirability of modifying such area wage index to take into account occupational mix, including variations in occupational mix resulting from differences in State codes and requirements.

Section 4002(g)(4) of the Omnibus Budget Reconciliation Act of 1990, Pub. L. 101-508
ProPAC Study of Medicaid Payments to Hospitals

(A) Study. – The Commission shall conduct a study of hospital payment rates under State plans for medical assistance under title XIX of the Social Security Act, and shall specifically examine in such study the relationship between payments under such plans and payments made to hospitals under title XVIII of such Act, and the financial condition of hospitals receiving payments under such plans, with particular attention to hospitals in urban areas which treat large number of individuals eligible for medical assistance under title XIX of such Act and other low-income individuals.

(B) Report. – By not later than October 1, 1991, the Commission shall submit a report to Congress on the study conducted under subparagraph (A) and shall include in such report such recommendations relating to requirements for payments to hospitals under title XIX of such Act as the Commission deems appropriate.

Section 4005(b) of the Omnibus Budget Reconciliation Act of 1990, Pub. L. 101-508
Development of National Prospective Payment Rates for Current Non-PPS Hospitals

(1) Development of Proposals. – The Secretary of Health and Human Services shall develop a proposal to modify the current system under which hospitals that are not subsection (d) hospitals (as defined in section 1886(d)(1)(B) of the Social Security Act) receive payment for the operating

and capital-related costs of inpatient hospital services under part A of the Medicare program or a proposal to replace such system with a system under which such payments would be made on the basis of nationally-determined average standardized amounts. In developing any proposal under this paragraph to replace the current system with a prospective payment system, the Secretary shall –

(A) take into consideration the need to provide for appropriate limits on increases in expenditures under the Medicare program;

(B) provide for adjustments to prospectively determined rates to account for changes in a hospital's case mix, severity of illness of patients, volume of cases, and the development of new technologies and standards of medical practice;

(C) take into consideration the need for increase in payment otherwise made under such system in the case of services provided to patients whose length of stay or costs of treatment greatly exceed the length of stay or cost of treatment provided for under the applicable prospectively determined payment rate;

(D) take into consideration the need to adjust payments under the system to take into account factors such as disproportionate share of low-income patients, costs related to graduate medical education programs, differences in wages and wage-related costs among hospitals located in various geographic areas, and other factors the Secretary considers appropriate; and

(E) provide for appropriate allocation of operating and capital-related costs of hospitals not subject to the new prospective payment system and distinct-part units of such hospitals that would be paid under such system.

(2) Report. – (A) By not later than April 1, 1992, the Secretary shall submit the proposal developed under paragraph (1) to the Committee on Finance of the Senate and the Committee on Ways and Means of the House of Representatives.

(B) By not later than June 1, 1992, the Prospective Payment Assessment Commission shall submit an analysis of and comments on the proposals developed under paragraph (1) to the Committee on Finance of the Senate and the Committee on Ways and Means of the House of Representatives.

Section 4008(k) of the Omnibus Budget Reconciliation Act of 1990, Pub. L. 101-508 Prospective Payment System for Skilled Nursing Facilities

(1) Development of Proposal. – The Secretary of Health and Human Services shall develop a proposal to modify the current system under which skilled nursing facilities receive payment for extended care services under part A of the Medicare program or a proposal to replace such system with a system under which such payments would be made on the basis of prospectively determined rates. In developing any proposal under this paragraph to replace the current system with a prospective payment system, the Secretary shall –

(A) take into consideration the need to provide for appropriate limits on increases in expenditures under the Medicare program without jeopardizing access to extended care services for individuals unable to care for themselves;

(B) provide for adjustments to prospectively determined rates to account for changes in a facility's case mix, volume of cases, and the development of new technologies and standards of medical practice;

(C) take into consideration the need to increase the payment otherwise made under such system in the case of services provided to patients whose length of stay or costs of treatment provided for under the applicable prospectively determined payment rate;

(D) take into consideration the need to adjust payments under the system to take into account factors such as a disproportionate share of low-income patients, differences in wages and wage-related costs among facilities located in various geographic areas, and other factors the Secretary considers appropriate; and

(E) take into consideration the appropriateness of classifying patients and payments upon functional disability, cognitive impairment, and other patient characteristics.

(2) Reports. – (A) By not later than April 1, 1991, the Secretary (acting through the Administrator of the Health Care Financing Administration) shall submit any research studies to be used in developing the proposal under paragraph (1) to

the Committee on Finance of the Senate and the Committee on Ways and Means of the House of Representatives.

(B) By not later than September 1, 1991, the Secretary shall submit the proposal developed under paragraph (1) to the Committee on Finance of the Senate and the Committee on Ways and Means of the House of Representatives.

(C) By not later than March 1, 1992, the Prospective Payment Assessment Commission shall submit an analysis of and comments on the proposal developed under paragraph (1) to the Committee on Finance of the Senate and the Committee on Ways and Means of the House of Representatives.

Section 4151(b)(2) of the Omnibus Budget Reconciliation Act of 1990, Pub. L. 101-508
Prospective Payment System for Hospital Outpatient Services

(A) Development of Proposal. — The Secretary of Health and Human Services shall develop a proposal to replace the current system under which payment is made for hospital outpatient services under title XVIII of the Social Security Act with a system under which such payments would be made on the basis of prospectively determined rates. In developing any proposal under this paragraph, the Secretary shall consider —

(i) the need to provide for appropriate limits on increases in expenditures under the Medicare program;

(ii) the need to adjust prospectively determined rates to account for changes in a hospital's outpatient case mix, severity of illness of patients, volume of cases, and the development of new technologies and standards of medical practice;

(iii) providing hospitals with incentives to control the costs of providing outpatient services;

(iv) the feasibility and appropriateness of including payment for outpatient services not currently paid on a cost-related basis under the Medicare program (including clinical diagnostic laboratory tests and dialysis services) in the system;

(v) the need to increase payments under the system to hospitals that treat a disproportionate

share of low-income patients, teaching hospitals, and hospitals located in geographic areas with high wages and wage-related costs;

(vi) the feasibility and appropriateness of bundling services into larger units, such as episodes or visits, in establishing the basic unit for making payments under the systems; and

(vii) the feasibility and appropriateness of varying payments under the system on the basis of whether services are provided in a free-standing or hospital-based facility.

(B) Reports. — (i) By not later than January 1, 1991, the Administrator of the Health Care Financing Administration shall submit research findings relating to prospective payments for hospital outpatient services to the Committee on Finance of the Senate and the Committee on Ways and Means and Energy and Commerce of the House of Representatives.

(ii) By not later than September 1, 1991, the Secretary shall submit the proposal developed under subparagraph (A) to such Committees.

(iii) By not later than March 1, 1992, the Prospective Payment Assessment Commission shall submit an analysis of and comments on the proposal developed under subparagraph (A) to such Committees.

Section 4201(b) of the Omnibus Budget Reconciliation Act of 1990, Pub. L. 101-508
ProPAC Study of ESRD Composite Rates

(1) In General. — (A) Study. — The Prospective Payment Assessment Commission (in this subsection referred to as the "Commission") shall conduct a study to determine the costs and services and profits associated with various modalities of dialysis treatments provided to end-stage renal disease patients provided under title XVIII of the Social Security Act.

(B) Recommendations. — Based on information collected for the study described in subparagraph (A), the Commission shall make recommendations to Congress regarding the method or methods and the levels at which the payments made for the facility component of dialysis services by providers of service and renal dialysis facilities under title

XVIII of the Social Security Act should be established for dialysis services furnished during fiscal year 1993 and the methodology to be used to update such payments for subsequent fiscal years. In making recommendations concerning the appropriate methodology the Commission shall consider –

(i) hemodialysis and other modalities of treatment,

(ii) the appropriate services to be included in such payments,

(iii) the adjustment factors to be incorporated including facility characteristics, such as hospital versus free-standing facilities, urban versus rural, size and mix of services,

(iv) adjustments for labor and non-labor costs,

(v) comparative profit margins for all types of renal dialysis providers of service and renal dialysis facilities,

(vi) adjustments for patient complexity, such as age, diagnosis, case mix, and pediatric services, and

(vii) efficient costs related to high quality of care and positive outcomes for all treatment modalities.

(2) Report. – Not later than June 1, 1992, the Commission shall submit a report to the Committee on Finance of the Senate, and the Committees on Ways and Means and Energy and Commerce of the House of Representatives on the study conducted under paragraph (1)(A) and shall include in the report the recommendations described in paragraph (1)(B), taking into account the factors described in paragraph (1)(B).

(3) Annual Report. – The Commission, not later than March 1, before the beginning of each fiscal year (beginning with fiscal year 1993) shall report its recommendations to the Committee on Finance of the Senate and the Committees on Ways and Means and Energy and Commerce of the House of Representatives on an appropriate change factor which should be used for updating payments for

services rendered in that fiscal year. The Commission in making such report to Congress shall consider conclusions and recommendations available from the Institute of Medicine.

Section 4206(c) of the Omnibus Budget Reconciliation Act of 1990, Pub. L. 101-508 Development of Prospective Payment System for Home Health Services

(1) Development of Proposal. – The Secretary of Health and Human Services shall develop a proposal to modify the current system under which payment is made for home health services under title XVIII of the Social Security Act or a proposal to replace such system with a system under which such payments would be made on the basis of prospectively determined rates. In developing any proposal under this paragraph to replace the current system with a prospective payment system, the Secretary shall –

(A) take into consideration the need to provide for appropriate limits on increases in expenditures under the Medicare program;

(B) provide for adjustments to prospectively determined rates to account for changes in a provider's case mix, severity of illness of patients, volume of cases, and the development of new technologies and standards of medical practice;

(C) take into consideration the need to increase the payment otherwise made under such system in the case of services provided to patients whose length of treatment or costs of treatment greatly exceed the length or cost of treatment provided for under the applicable prospectively determined payment rate;

(D) take into consideration the need to adjust payments under the system to take into account factors such as differences in wages and wage-related costs among agencies located in various geographic areas and other factors the Secretary considers appropriate; and

(E) analyze the feasibility and appropriateness of establishing the episode of illness as the basic unit for making payments under the system.

(2) Reports. – (A) By not later than April 1, 1993, the Secretary of Health and Human Services shall submit the research findings upon which the proposal described in paragraph (1) shall be based to the Committee on Finance of the Senate and the Committee on Ways and Means of the House of Representatives.

(B) By not later than September 1, 1993, the Secretary shall submit the proposal developed under paragraph (1) to the Committee on Finance of the Senate and the Committee on Ways and Means of the House of Representatives.

(C) By not later than March 1, 1994, the Prospective Payment Assessment Commission shall submit an analysis of and comments on the proposal developed under paragraph (1) to the Committee on Finance of the Senate and the Committee on Ways and Means of the House of Representatives.

H.R. Rep. No. 964, 101st Cong., 1st Sess. (1990)

(Report of the Committee of Conferees, Pub. L. 101-508)

In performing this function [developing and modification of reimbursement policies], the conferees intend that ProPAC would include in its analysis and recommendations, proposals for changes in policies regarding: (1) payment for inner-city hospitals, including appropriate recognition of bad debt and charity care costs; (2) payment for rural hospitals including recommendations on appropriate responses to issues affecting access to health care services in rural areas; and (3) policies which help constrain the costs of health care to employers, including changes in Medicare and its payment policies which may affect other payers.

S.R. Rep No. 516, 101st Cong., 2nd Sess. (1990)

(Report of the Senate Committee on Appropriations, H.R. 5257.)

The Committee, therefore, requests that ProPAC issue a report listing (1) the adjustments that have been made to PPS since its inception (for example changes in standardized amount, outlier pool, consideration of part-time labor); and (2) the amount of increased payments (taking inflation into account) for PPS years 1-5 and what rural hospitals would have received if these adjustments had been in place from the system's beginning.

In addition, the Committee requests, that ProPAC in its 1991 report address in detail the impact of less-than-average patient volume on overhead costs and reimbursement, especially on small hospitals. This Committee remains concerned that the PPS system, which is based on averages, inherently is inappropriate to small-volume hospitals.

Given the history of inequitable inpatient payments and the widespread concern over new systems of outpatient payments, the Committee finds it is necessary to investigate whether outpatient payment systems also will be biased against smaller rural providers. The Committee requests that ProPAC in its 1991 report identify all potential outpatient payment biases against small rural hospitals, and recommend actions to correct them.

The Committee is concerned that the Federal Office of Rural Health Policy lacks essential resources such as computer capability in order to fulfill its statutory mandate to provide impact analyses of proposed Medicare and Medicaid regulations. The Committee instructs ProPAC to provide its resources to the Office of Rural Health Policy in order to facilitate these analyses. The Committee expects The Commission to provide technical assistance to the Office of Rural Health Policy.

The Committee urges ProPAC to continue to study the use of nurse practitioners and other non-physician providers in alternative settings to acute care and long-term institutional care.

Appendix D. Change in DRG Relative Weights from Fiscal Year 1990 to Fiscal Year 1991

DRG	MDC	TYPE	TITLE	FY 1990 WEIGHT	FY 1991 WEIGHT	PERCENT CHANGE
1	1	SURG	CRANIOTOMY AGE >17 EXCEPT FOR TRAUMA	3.5670	3.3580	-5.9
2	1	SURG	CRANIOTOMY FOR TRAUMA AGE >17	4.1379	3.5485	-14.2
3	1	SURG	CRANIOTOMY AGE 0-17	2.8830	2.8830	0.0
4	1	SURG	SPINAL PROCEDURES	2.6483	2.4532	-7.4
5	1	SURG	EXTRACRANIAL VASCULAR PROCEDURES	1.5214	1.5246	0.2
6	1	SURG	CARPAL TUNNEL RELEASE	0.4709	0.4823	2.4
7	1	SURG	PERIPH & CRANIAL NERVE & OTHER NERV SYST PROC WITH CC	3.1110	2.6823	-13.8
8	1	SURG	PERIPH & CRANIAL NERVE & OTHER NERV SYST PROC W/O CC	0.7355	0.7451	1.3
9	1	MED	SPINAL DISORDERS & INJURIES	1.4058	1.2229	-13.0
10	1	MED	NERVOUS SYSTEM NEOPLASMS WITH CC	1.2449	1.2765	2.5
11	1	MED	NERVOUS SYSTEM NEOPLASMS W/O CC	0.7451	0.7771	4.3
12	1	MED	DEGENERATIVE NERVOUS SYSTEM DISORDERS	0.9391	0.9256	-1.4
13	1	MED	MULTIPLE SCLEROSIS & CEREBELLAR ATAXIA	0.8699	0.8726	0.3
14	1	MED	SPECIFIC CEREBROVASCULAR DISORDERS EXCEPT TIA	1.2260	1.2212	-0.4
15	1	MED	TRANSIENT ISCHEMIC ATTACK & PRECEREBRAL OCCLUSIONS	0.6350	0.6420	1.1
16	1	MED	NONSPECIFIC CEREBROVASCULAR DISORDERS WITH CC	1.0949	1.0703	-2.2
17	1	MED	NONSPECIFIC CEREBROVASCULAR DISORDERS W/O CC	0.6452	0.6326	-2.0
18	*	MED	CRANIAL & PERIPHERAL NERVE DISORDERS WITH CC	0.9640	0.8749	-9.2
19	*	MED	CRANIAL & PERIPHERAL NERVE DISORDERS W/O CC	0.5869	0.5629	-4.1
20	*	MED	NERVOUS SYSTEM INFECTION EXCEPT VIRAL MENINGITIS	1.7817	1.8683	4.9
21	1	MED	VIRAL MENINGITIS	1.4190	1.4439	1.8
22	1	MED	HYPERTENSIVE ENCEPHALOPATHY	0.6981	0.7206	3.2
23	1	MED	NONTRAUMATIC STUPOR & COMA	0.8698	0.8322	-4.3
24	1	MED	SEIZURE & HEADACHE AGE >17 WITH CC	0.9669	0.9602	-0.7
25	1	MED	SEIZURE & HEADACHE AGE >17 W/O CC	0.5270	0.5197	-1.4
26	1	MED	SEIZURE & HEADACHE AGE 0-17	0.7313	0.8176	11.8
27	1	MED	TRAUMATIC STUPOR & COMA, COMA >1 HR	1.6124	1.3481	-16.4
28	1	MED	TRAUMATIC STUPOR & COMA, COMA <1 HR AGE >17 WITH CC	1.2750	1.2060	-5.4
29	1	MED	TRAUMATIC STUPOR & COMA, COMA <1 HR AGE >17 W/O CC	0.5730	0.5674	-1.0
30	1	MED	TRAUMATIC STUPOR & COMA, COMA <1 HR AGE 0-17	0.3496	0.3496	0.0
31	1	MED	CONCUSSION AGE >17 WITH CC	0.7007	0.6933	-1.1
32	1	MED	CONCUSSION AGE >17 W/O CC	0.4038	0.4100	1.5

Appendix D. Change in DRG Relative Weights from Fiscal Year 1990 to Fiscal Year 1991

DRG	MDC	TYPE	TITLE	FY 1990 WEIGHT	FY 1991 WEIGHT	PERCENT CHANGE
33	1	MED	CONCUSSION AGE 0-17	0.2427	0.2427	0.0
34	1	MED	OTHER DISORDERS OF NERVOUS SYSTEM WITH CC	1.2069	1.1714	-2.9
35	1	MED	OTHER DISORDERS OF NERVOUS SYSTEM W/O CC	0.5597	0.5464	-2.4
36	2	SURG	RETINAL PROCEDURES	0.6443	0.6487	0.7
37	2	SURG	ORBITAL PROCEDURES	0.7415	0.7431	0.2
38	2	SURG	PRIMARY IRIS PROCEDURES	0.3550	0.3614	1.8
39	2	SURG	LENS PROCEDURES WITH OR WITHOUT VITRECTOMY	0.4494	0.4456	-0.8
40	2	SURG	EXTRAOCULAR PROCEDURES EXCEPT ORBIT AGE >17	0.4762	0.4923	3.4
41	2	SURG	EXTRAOCULAR PROCEDURES EXCEPT ORBIT AGE 0-17	0.3613	0.3613	0.0
42	2	SURG	INTRAOCULAR PROCEDURES RETINA, IRIS & LENS	0.6305	0.6202	-1.6
43	2	MED	HYPHEMA	0.3350	0.3867	15.4
44	2	MED	ACUTE MAJOR EYE INFECTIONS	0.6035	0.5979	-0.9
45	2	MED	NEUROLOGICAL EYE DISORDERS	0.5454	0.5650	3.6
46	2	MED	OTHER DISORDERS OF THE EYE AGE > 17 WITH CC	0.6495	0.6701	3.2
47	2	MED	OTHER DISORDERS OF THE EYE AGE > 17 W/O CC	0.3539	0.3608	1.9
48	2	MED	OTHER DISORDERS OF THE EYE AGE 0-17	0.3969	0.3969	0.0
49	2	SURG	MAJOR HEAD & NECK PROCEDURES	2.8633	2.3273	-18.7
50	2	SURG	SIALOADENECTOMY	0.6298	0.6413	1.8
51	3	SURG	SALIVARY GLAND PROCEDURES EXCEPT SIALOADENECTOMY	0.5647	0.5822	3.1
52	3	SURG	CLEFT LIP & PALATE REPAIR	0.8129	0.7394	-9.0
53	3	SURG	SINUS & MASTOID PROCEDURES AGE > 17	0.6161	0.6308	2.4
54	3	SURG	SINUS & MASTOID PROCEDURES AGE 0-17	0.6806	0.6806	0.0
55	3	SURG	MISCELLANEOUS EAR, NOSE, MOUTH & THROAT PROCEDURES	0.4879	0.4905	0.5
56	3	SURG	RHINOPLASTY	0.4881	0.4982	2.1
57	3	SURG	T&A PROC, EXCEPT TONSILLECTOMY &/OR ADENOIDECTOMY ONLY, AGE >17	0.9313	0.8774	-5.8
58	3	SURG	T&A PROC, EXCEPT TONSILLECTOMY &/OR ADENOIDECTOMY ONLY, AGE 0-17	0.3060	0.3060	0.0
59	3	SURG	TONSILLECTOMY &/OR ADENOIDECTOMY ONLY, AGE >17	0.3878	0.4192	8.1
60	3	SURG	TONSILLECTOMY &/OR ADENOIDECTOMY ONLY, AGE 0-17	0.2584	0.2584	0.0
61	3	SURG	MYRINGOTOMY W TUBE INSERTION AGE > 17	0.6945	0.7656	10.2
62	3	SURG	MYRINGOTOMY W TUBE INSERTION AGE 0-17	0.3052	0.3052	0.0
63	3	SURG	OTHER EAR, NOSE, MOUTH & THROAT O.R. PROCEDURES	1.1882	1.0111	-14.9
64	3	MED	EAR, NOSE, MOUTH & THROAT MALIGNANCY	1.1762	1.0651	-9.4

Appendix D. Change in DRG Relative Weights from Fiscal Year 1990 to Fiscal Year 1991

DRG	MDC	TYPE	TITLE	FY 1990 WEIGHT	FY 1991 WEIGHT	PERCENT CHANGE
65	3	MED	DYSEQUILIBRIUM	0.4564	0.4636	1.6
66	3	MED	EPISTAXIS	0.4496	0.4528	0.7
67	3	MED	EPIGLOTTITIS	0.8589	0.8478	-1.3
68	3	MED	OTITIS MEDIA & URI AGE > 17 WITH CC	0.7232	0.7209	-0.3
69	3	MED	OTITIS MEDIA & URI AGE > 17 W/O CC	0.5281	0.5086	-3.7
70	3	MED	OTITIS MEDIA & URI AGE 0-17	0.4589	0.2830	-38.3
71	3	MED	LARYNGOTRACHEITIS	0.7307	0.7030	-3.8
72	3	MED	NASAL TRAUMA & DEFORMITY	0.5528	0.5547	0.3
73	3	MED	OTHER EAR, NOSE, MOUTH, & THROAT DIAGNOSES AGE > 17	0.7525	0.7291	-3.1
74	3	MED	OTHER EAR, NOSE, MOUTH, & THROAT DIAGNOSES AGE 0-17	0.3386	0.3386	0.0
75	4	SURG	MAJOR CHEST PROCEDURES	2.9603	2.9860	0.9
76	4	SURG	OTHER RESP SYSTEM O.R. PROCEDURES WITH CC	2.3038	2.3074	0.2
77	4	SURG	OTHER RESP SYSTEM O.R. PROCEDURES W/O CC	1.0895	1.0413	-4.4
78	4	MED	PULMONARY EMBOLISM	1.4320	1.4372	0.4
79	4	MED	RESPIRATORY INFECTIONS & INFLAMMATIONS AGE > 17 WITH CC	1.8530	1.8144	-2.1
80	4	MED	RESPIRATORY INFECTIONS & INFLAMMATIONS AGE > 17 W/O CC	1.1382	1.0404	-8.6
81	4	MED	RESPIRATORY INFECTIONS & INFLAMMATIONS AGE 0-17	1.0899	1.0899	0.0
82	4	MED	RESPIRATORY NEOPLASMS	1.2016	1.2178	1.3
83	4	MED	MAJOR CHEST TRAUMA WITH CC	1.0064	0.9628	-4.3
84	4	MED	MAJOR CHEST TRAUMA W/O CC	0.5009	0.4846	-3.3
85	4	MED	PLEURAL EFFUSION WITH CC	1.1437	1.1509	0.6
86	4	MED	PLEURAL EFFUSION W/O CC	0.7223	0.6961	-3.6
87	4	MED	PULMONARY EDEMA & RESPIRATORY FAILURE	1.4597	1.3895	-4.8
88	4	MED	CHRONIC OBSTRUCTIVE PULMONARY DISEASE	1.0153	0.9973	-1.8
89	4	MED	SIMPLE PNEUMONIA & PLEURISY AGE > 17 WITH CC	1.2059	1.1878	-1.5
90	4	MED	SIMPLE PNEUMONIA & PLEURISY AGE > 17 W/O CC	0.7790	0.7538	-3.2
91	4	MED	SIMPLE PNEUMONIA & PLEURISY AGE 0-17	0.7465	0.8141	9.1
92	4	MED	INTERSTITIAL LUNG DISEASE WITH CC	1.2182	1.2131	-0.4
93	4	MED	INTERSTITIAL LUNG DISEASE W/O CC	0.7936	0.7598	-4.3
94	4	MED	PNEUMOTHORAX WITH CC	1.3378	1.2763	-4.6
95	4	MED	PNEUMOTHORAX W/O CC	0.6665	0.6533	-2.0
96	4	MED	BRONCHITIS & ASTHMA AGE > 17 WITH CC	0.9734	0.9568	-1.7

Appendix D. Change in DRG Relative Weights from Fiscal Year 1990 to Fiscal Year 1991

DRG	MDC	TYPE	TITLE	FY 1990 WEIGHT	FY 1991 WEIGHT	PERCENT CHANGE
97	4	MED	BRONCHITIS & ASTHMA AGE >17 W/O CC	0.6810	0.6561	-3.7
98	4	MED	BRONCHITIS & ASTHMA AGE 0-17	0.8942	0.6135	-31.4
99	4	MED	RESPIRATORY SIGNS & SYMPTOMS WITH CC	0.8493	0.8361	-1.6
100	4	MED	RESPIRATORY SIGNS & SYMPTOMS W/O CC	0.5125	0.5090	-0.7
101	4	MED	OTHER RESPIRATORY SYSTEM DIAGNOSES WITH CC	0.9966	0.9181	-7.9
102	4	MED	OTHER RESPIRATORY SYSTEM DIAGNOSES W/O CC	0.5593	0.5400	-3.5
103	5	SURG	HEART TRANSPLANT	13.2352	12.9086	-2.5
104	5	SURG	CARDIAC VALVE PROCEDURES W CARDIAC CATH	7.8432	8.0641	2.8
105	5	SURG	CARDIAC VALVE PROCEDURES W/O CARDIAC CATH	5.9965	6.0750	1.3
106	5	SURG	CORONARY BYPASS W CARDIAC CATH	5.6558	5.4227	-4.1
107	5	SURG	CORONARY BYPASS W/O CARDIAC CATH	4.2260	4.7899	13.3
108 *	5	SURG	OTHER CARDIOTHORACIC PROCEDURES	5.7332	5.9649	4.0
109 *	5	SURG	NO LONGER VALID	3.7746	NV	NV
110 *	5	SURG	MAJOR CARDIOVASCULAR PROCEDURES WITH CC	3.5967	4.2644	18.6
111 *	5	SURG	MAJOR CARDIOVASCULAR PROCEDURES W/O CC	2.0351	2.4493	20.4
112 *	5	SURG	PERCUTANEOUS CARDIOVASCULAR PROCEDURES	1.9106	1.9910	4.2
113	5	SURG	AMPUTATION FOR CIRC SYSTEM DISORDERS EXCEPT UPPER LIMB & TOE	2.4616	2.6279	6.8
114	5	SURG	UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS	1.6119	1.5827	-1.8
115	5	SURG	PERM CARDIAC PACEMAKER IMPLANT W AMI, HEART FAILURE OR SHOCK	3.8541	3.7705	-2.2
116	5	SURG	PERM CARDIAC PACEMAKER IMPLANT W/O AMI, HEART FAILURE OR SHOCK	2.5793	2.5190	-2.3
117	5	SURG	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT	1.8867	1.3520	-28.3
118	5	SURG	CARDIAC PACEMAKER DEVICE REPLACEMENT	2.0267	1.7375	-14.3
119	5	SURG	VEIN LIGATION & STRIPPING	0.8269	0.8169	-1.2
120	5	SURG	OTHER CIRCULATORY SYSTEM O.R. PROCEDURES	2.7059	2.5143	-7.1
121	5	MED	CIRCULATORY DISORDERS W AMI & C.V. COMP, DISCH ALIVE	1.6228	1.5772	-2.8
122	5	MED	CIRCULATORY DISORDERS W AMI W/O C.V. COMP, DISCH ALIVE	1.1233	1.1152	-0.7
123	5	MED	CIRCULATORY DISORDERS W AMI, EXPIRED	1.3934	1.3704	-1.7
124	5	MED	CIRCULATORY DISORDERS EXCEPT AMI, W CARD CATH & COMPLEX DIAG	1.1876	1.1816	-0.5
125	5	MED	CIRCULATORY DISORDERS EXCEPT AMI, W CARD CATH W/O COMPLEX DIAG	0.6874	0.7015	2.1
126	5	MED	ACUTE & SUBACUTE ENDOCARDITIS	2.9894	2.9543	-1.2
127	5	MED	HEART FAILURE & SHOCK	1.0169	1.0040	-1.3
128	5	MED	DEEP VEIN THROMBOPHLEBITIS	0.8129	0.8061	-0.8

Appendix D. Change in DRG Relative Weights from Fiscal Year 1990 to Fiscal Year 1991

DRG	MDC	TYPE	TITLE	FY 1990 WEIGHT	FY 1991 WEIGHT	PERCENT CHANGE
129	5	MED	CARDIAC ARREST, UNEXPLAINED	1.3986	1.3242	-5.3
130	5	MED	PERIPHERAL VASCULAR DISORDERS WITH CC	0.8921	0.8969	0.5
131	5	MED	PERIPHERAL VASCULAR DISORDERS W/O CC	0.5814	0.5841	0.5
132	5	MED	ATHEROSCLEROSIS WITH CC	0.7565	0.7252	-4.1
133	5	MED	ATHEROSCLEROSIS W/O CC	0.5420	0.5205	-4.0
134	5	MED	HYPERTENSION	0.5964	0.5992	0.5
135	5	MED	CARDIAC CONGENITAL & VALVULAR DISORDERS AGE >17 WITH CC	0.9018	0.8623	-4.4
136	5	MED	CARDIAC CONGENITAL & VALVULAR DISORDERS AGE >17 W/O CC	0.5488	0.5507	0.3
137	5	MED	CARDIAC CONGENITAL & VALVULAR DISORDERS AGE 0-17	0.6239	0.6239	0.0
138	5	MED	CARDIAC ARRHYTHMIA & CONDUCTION DISORDERS WITH CC	0.8707	0.8331	-4.3
139	5	MED	CARDIAC ARRHYTHMIA & CONDUCTION DISORDERS W/O CC	0.5715	0.5325	-6.8
140	5	MED	ANGINA PECTORIS	0.6387	0.6296	-1.4
141	5	MED	SYNCOPE & COLLAPSE WITH CC	0.6920	0.6899	-0.3
142	5	MED	SYNCOPE & COLLAPSE W/O CC	0.5149	0.5012	-2.7
143	5	MED	CHEST PAIN	0.5226	0.5140	-1.6
144	5	MED	OTHER CIRCULATORY SYSTEM DIAGNOSES WITH CC	1.1035	1.0849	-1.7
145	5	MED	OTHER CIRCULATORY SYSTEM DIAGNOSES W/O CC	0.6236	0.5933	-4.9
146	6	SURG	RECTAL RESECTION WITH CC	2.7386	2.5864	-5.6
147	6	SURG	RECTAL RESECTION W/O CC	1.7349	1.6406	-5.4
148	6	SURG	MAJOR SMALL & LARGE BOWEL PROCEDURES WITH CC	3.2705	3.1996	-2.2
149	6	SURG	MAJOR SMALL & LARGE BOWEL PROCEDURES W/O CC	1.6636	1.6044	-3.6
150	6	SURG	PERITONEAL ADHESIOSIS WITH CC	2.6617	2.5312	-4.9
151	6	SURG	PERITONEAL ADHESIOSIS W/O CC	1.3478	1.2777	-5.2
152	6	SURG	MINOR SMALL & LARGE BOWEL PROCEDURES WITH CC	1.4678	1.4769	0.6
153	6	SURG	MINOR SMALL & LARGE BOWEL PROCEDURES W/O CC	1.0149	1.0170	0.2
154	6	SURG	STOMACH, ESOPHAGEAL & DUODENAL PROCEDURES AGE >17 WITH CC	3.8172	3.6320	-4.9
155	6	SURG	STOMACH, ESOPHAGEAL & DUODENAL PROCEDURES AGE >17 W/O CC	1.6050	1.4768	-8.0
156	6	SURG	STOMACH, ESOPHAGEAL & DUODENAL PROCEDURES AGE 0-17	0.8281	0.8281	0.0
157	6	SURG	ANAL & STOMAL PROCEDURES WITH CC	0.9571	0.9248	-3.4
158	6	SURG	ANAL & STOMAL PROCEDURES W/O CC	0.5136	0.4877	-5.0
159	6	SURG	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL AGE >17 WITH CC	1.1057	1.0797	-2.4
160	6	SURG	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL AGE >17 W/O CC	0.6314	0.6166	-2.3

Appendix D. Change in DRG Relative Weights from Fiscal Year 1990 to Fiscal Year 1991

DRG	MDC	TYPE	TITLE	FY 1990 WEIGHT	FY 1991 WEIGHT	PERCENT CHANGE
161	6	SURG	INGUINAL & FEMORAL HERNIA PROCEDURES AGE > 17 WITH CC	0.7337	0.7238	-1.3
162	6	SURG	INGUINAL & FEMORAL HERNIA PROCEDURES AGE > 17 W/O CC	0.4485	0.4428	-1.3
163	6	SURG	HERNIA PROCEDURES AGE 0-17	0.7729	0.6397	-17.2
164	6	SURG	APPENDECTOMY W COMPLICATED PRINCIPAL DIAG WITH CC	2.3737	2.2699	-4.4
165	6	SURG	APPENDECTOMY W COMPLICATED PRINCIPAL DIAG W/O CC	1.3377	1.2944	-3.2
166	6	SURG	APPENDECTOMY W/O COMPLICATED PRINCIPAL DIAG WITH CC	1.3991	1.3818	-1.2
167	6	SURG	APPENDECTOMY W/O COMPLICATED PRINCIPAL DIAL W/O CC	0.7922	0.7745	-2.2
168	6	SURG	MOUTH PROCEDURES WITH CC	1.0050	0.9806	-2.4
169	6	SURG	MOUTH PROCEDURES W/O CC	0.5463	0.5558	1.7
170	6	SURG	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES WITH CC	2.8091	2.7171	-3.3
171	6	SURG	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES W/O CC	1.2563	1.1583	-7.8
172	6	MED	DIGESTIVE MALIGNANCY WITH CC	1.2216	1.2445	1.9
173	6	MED	DIGESTIVE MALIGNANCY W/O CC	0.6657	0.6358	-4.5
174	6	MED	G.I. HEMORRHAGE WITH CC	0.9620	0.9537	-0.9
175	6	MED	G.I. HEMORRHAGE W/O CC	0.5983	0.5756	-3.8
176	6	MED	COMPLICATED PEPTIC ULCER	0.9831	0.9830	0.0
177	6	MED	UNCOMPLICATED PEPTIC ULCER WITH CC	0.7637	0.7803	2.2
178	6	MED	UNCOMPLICATED PEPTIC ULCER W/O CC	0.5650	0.5564	-1.5
179	6	MED	INFLAMMATORY BOWEL DISEASE	1.0648	1.0895	2.3
180	6	MED	G.I. OBSTRUCTION WITH CC	0.9134	0.9165	0.3
181	6	MED	G.I. OBSTRUCTION W/O CC	0.5229	0.5130	-1.9
182	6	MED	ESOPHAGITIS, GASTROENT & MISC DIGEST DISORDERS AGE > 17 WITH CC	0.7414	0.7497	1.1
183	6	MED	ESOPHAGITIS, GASTROENT & MISC DIGEST DISORDERS AGE > 17 W/O CC	0.5215	0.5200	-0.3
184	6	MED	ESOPHAGITIS, GASTROENT & MISC DIGEST DISORDERS AGE 0-17	0.5408	0.6801	25.8
185	6	MED	DENTAL & ORAL DIS EXCEPT EXTRACTIONS & RESTORATIONS, AGE > 17	0.7627	0.7548	-1.0
186	6	MED	DENTAL & ORAL DIS EXCEPT EXTRACTIONS & RESTORATIONS, AGE 0-17	0.4062	0.4062	0.0
187	6	MED	DENTAL EXTRACTIONS & RESTORATIONS	0.4856	0.4814	-0.9
188	6	MED	OTHER DIGESTIVE SYSTEM DIAGNOSES AGE > 17 WITH CC	0.9730	0.9632	-1.0
189	6	MED	OTHER DIGESTIVE SYSTEM DIAGNOSES AGE > 17 W/O CC	0.4767	0.4802	0.7
190	6	MED	OTHER DIGESTIVE SYSTEM DIAGNOSES AGE 0-17	0.7671	0.6312	-17.7
191	7	SURG	PANCREAS, LIVER & SHUNT PROCEDURES W CC	5.0674	4.6941	-7.4
192	7	SURG	PANCREAS, LIVER & SHUNT PROCEDURES W/O CC	2.1816	1.9662	-9.9

Appendix D. Change in DRG Relative Weights from Fiscal Year 1990 to Fiscal Year 1991

DRG	MDC	TYPE	TITLE	FY 1990 WEIGHT	FY 1991 WEIGHT	PERCENT CHANGE
193	7	SURG	BILIARY TRACT PROC W CC EXCEPT ONLY TOT CHOLECYST W OR W/O C.D.E.	3.0026	3.0102	0.3
194	7	SURG	BILIARY TRACT PROC W/O CC EXCEPT ONLY TOT CHOLECYST W OR W/O C.D.E.	1.7802	1.7387	-2.3
195	7	SURG	TOTAL CHOLECYSTECTOMY W C.D.E. WITH CC	2.2810	2.2175	-2.8
196	7	SURG	TOTAL CHOLECYSTECTOMY W C.D.E. W/O CC	1.5106	1.4183	-6.1
197	7	SURG	TOTAL CHOLECYSTECTOMY W/O C.D.E. WITH CC	1.7378	1.7336	-0.2
198	7	SURG	TOTAL CHOLECYSTECTOMY W/O C.D.E. W/O CC	0.9865	0.9445	-4.3
199	7	SURG	HEPATOBIILIARY DIAGNOSTIC PROCEDURE FOR MALIGNANCY	2.2585	2.3168	2.6
200	7	SURG	HEPATOBIILIARY DIAGNOSTIC PROCEDURE FOR NON-MALIGNANCY	2.7160	2.8940	6.6
201	7	SURG	OTHER HEPATOBIILIARY OR PANCREAS O.R. PROCEDURES	2.4093	2.4210	0.5
202	7	MED	CIRRHOSIS & ALCOHOLIC HEPATITIS	1.1953	1.2019	0.6
203	7	MED	MALIGNANCY OF HEPATOBIILIARY SYSTEM OR PANCREAS	1.1174	1.1301	1.1
204	7	MED	DISORDERS OF PANCREAS EXCEPT MALIGNANCY	1.0387	1.0617	2.2
205	7	MED	DISORDERS OF LIVER EXCEPT MALIG, CIRRH, ALC HEPA WITH CC	1.2068	1.1985	-0.7
206	7	MED	DISORDERS OF LIVER EXCEPT MALIG, CIRRH, ALC HEPA W/O CC	0.6124	0.6210	1.4
207	7	MED	DISORDERS OF THE BILIARY TRACT WITH CC	0.9566	0.9569	0.0
208	7	MED	DISORDERS OF THE BILIARY TRACT W/O CC	0.5658	0.5599	-1.0
209	8	SURG	MAJOR JOINT & LIMB REATTACHMENT PROCEDURES	2.3437	2.3689	1.1
210	8	SURG	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT AGE >17 WITH CC	2.0536	1.9939	-2.9
211	8	SURG	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT AGE >17 W/O CC	1.4716	1.4302	-2.8
212	8	SURG	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT AGE 0-17	1.4023	0.9981	-28.8
213	8	SURG	AMPUTATION FOR MUSCULOSKELETAL SYSTEM & CONN TISSUE DISORDERS	1.7701	1.7562	-0.8
214	8	SURG	BACK & NECK PROCEDURES WITH CC	1.9997	1.9298	-3.5
215	8	SURG	BACK & NECK PROCEDURES W/O CC	1.2155	1.1550	-5.0
216	8	SURG	BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE	1.7852	1.8502	3.6
217	8	SURG	WND DEBRID & SKIN GRAFT EXCEPT HAND, FOR MUSCSKELET & CONN TISS DIS	3.0640	3.1173	1.7
218	8	SURG	LOWER EXTREM & HUMER PROC EXCEPT HIP, FOOT, FEMUR AGE >17 WITH CC	1.5359	1.4748	-4.0
219	8	SURG	LOWER EXTREM & HUMER PROC EXCEPT HIP, FOOT, FEMUR AGE >17 W/O CC	0.9363	0.9194	-1.8
220	8	SURG	LOWER EXTREM & HUMER PROC EXCEPT HIP, FOOT, FEMUR AGE 0-17	0.9130	0.9130	0.0
221	8	SURG	KNEE PROCEDURES WITH CC	1.5408	1.5919	3.3
222	8	SURG	KNEE PROCEDURES W/O CC	0.8855	0.9134	3.2
223	8	SURG	MAJOR SHOULDER/ELBOW PROC, OR OTHER UPPER EXTREMITY PROC WITH CC	0.8405	0.8260	-1.7
224	8	SURG	SHOULDER, ELBOW OR FOREARM PROC, EXC MAJOR JOINT PROC W/O CC	0.6248	0.6224	-0.4

Appendix D. Change in DRG Relative Weights from Fiscal Year 1990 to Fiscal Year 1991

DRG	MDC	TYPE	TITLE	FY 1990 WEIGHT	FY 1991 WEIGHT	PERCENT CHANGE
225	8	SURG	FOOT PROCEDURES	0.7063	0.7421	5.1
226	8	SURG	SOFT TISSUE PROCEDURES WITH CC	1.4308	1.3371	-6.5
227	8	SURG	SOFT TISSUE PROCEDURES W/O CC	0.6613	0.6604	-0.1
228	8	SURG	MAJOR THUMB OR JOINT PROC, OR OTHER HAND OR WRIST PROC WITH CC	0.7911	0.8148	3.0
229	8	SURG	HAND OR WRIST PROC EXCEPT MAJOR JOINT PROC W/O CC	0.5117	0.5358	4.7
230	8	SURG	LOCAL EXCISION & REMOVAL OF INT FIX DEVICES OF HIP & FEMUR	0.8763	0.8508	-2.9
231	8	SURG	LOCAL EXCISION & REMOVAL OF INT FIX DEVICES EXCEPT HIP & FEMURE	0.9107	0.9306	2.2
232	8	SURG	ARTHROSCOPY	1.1229	0.9981	-11.1
233	8	SURG	OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC WITH CC	1.7280	1.8416	6.6
234	8	SURG	OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC W/O CC	0.8477	0.8322	-1.8
235	8	MED	FRACTURES OF FEMUR	1.1575	1.1383	-1.7
236	8	MED	FRACTURES OF HIP & PELVIS	0.8565	0.8516	-0.6
237	8	MED	SPRAINS, STRAINS & DISLOCATIONS OF HIP, PELVIS & THIGH	0.5662	0.5424	-4.2
238	8	MED	OSTEOMYELITIS	1.5778	1.5682	-0.6
239	8	MED	PATHOLOGICAL FRACTURES & MUSCULOSKELETAL & CONN TISS MALIGNANCY	0.9843	1.0035	2.0
240	8	MED	CONNECTIVE TISSUE DISORDERS WITH CC	1.0769	1.1197	4.0
241	8	MED	CONNECTIVE TISSUE DISORDERS W/O CC	0.6218	0.5852	-5.9
242	8	MED	SEPTIC ARTHRITIS	1.3229	1.2566	-5.0
243	8	MED	MEDICAL BACK PROBLEMS	0.6501	0.6580	1.2
244	8	MED	BONE DISEASES & SPECIFIC ARTHROPATHIES WITH CC	0.7134	0.7228	1.3
245	8	MED	BONE DISEASES & SPECIFIC ARTHROPATHIES W/O CC	0.5108	0.5008	-2.0
246	8	MED	NON-SPECIFIC ARTHROPATHIES	0.5910	0.5736	-2.9
247	8	MED	SIGNS & SYMPTOMS OF MUSCULOSKELETAL SYSTEM & CONN TISSUE	0.5285	0.5332	0.9
248	8	MED	TENDONITIS, MYOSITIS & BURSITIS	0.6120	0.6342	3.6
249	8	MED	AFTERCARE, MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE	0.6287	0.6320	0.5
250	8	MED	FX, SPRN, STRN & DISL OF FOREARM, HAND, FOOT AGE > 17 WITH CC	0.6806	0.6757	-0.7
251	8	MED	FX, SPRN, STRN & DISL OF FOREARM, HAND, FOOT AGE > 17 W/O CC	0.4230	0.4315	2.0
252	8	MED	FX, SPRN, STRN & DISL OF FOREARM, HAND, FOOT AGE 0-17	0.3454	0.3454	0.0
253	8	MED	FX, SPRN, STRN & DISL OF UPARM, LOWLEG EX FOOT AGE > 17 WITH CC	0.7983	0.7871	-1.4
254	8	MED	FX, SPRN, STRN & DISL OF UPARM, LOWLEG EX FOOT AGE > 17 W/O CC	0.4346	0.4303	-1.0
255	8	MED	FX, SPRN, STRN & DISL OF UPARM, LOWLEG EX FOOT AGE 0-17	0.4582	0.4582	0.0
256	8	MED	OTHER MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE DIAGNOSES	0.6251	0.6267	0.3

Appendix D. Change in DRG Relative Weights from Fiscal Year 1990 to Fiscal Year 1991

DRG	MDC	TYPE	TITLE	FY 1990 WEIGHT	FY 1991 WEIGHT	PERCENT CHANGE
257	9	SURG	TOTAL MASTECTOMY FOR MALIGNANCY WITH CC	0.9402	0.9219	-1.9
258	9	SURG	TOTAL MASTECTOMY FOR MALIGNANCY W/O CC	0.7467	0.7178	-3.9
259	9	SURG	SUBTOTAL MASTECTOMY FOR MALIGNANCY WITH CC	0.9987	0.9581	-4.1
260	9	SURG	SUBTOTAL MASTECTOMY FOR MALIGNANCY W/O CC	0.5654	0.5764	1.9
261	9	SURG	BREAST PROC FOR NON-MALIGNANCY EXCEPT BIOPSY & LOCAL EXCISION	0.6285	0.6509	3.6
262	9	SURG	BREAST BIOPSY & LOCAL EXCISION FOR NON-MALIGNANCY	0.4464	0.4537	1.6
263	9	SURG	SKIN GRAFT &/OR DEBRID FOR SKIN ULCER OR CELLULITIS WITH CC	2.6691	2.7750	4.0
264	9	SURG	SKIN GRAFT &/OR DEBRID FOR SKIN ULCER OR CELLULITIS W/O CC	1.4197	1.3569	-4.4
265	9	SURG	SKIN GRAFT &/OR DEBRID EXCEPT FOR SKIN ULCER OR CELLULITIS W CC	1.3903	1.3538	-2.6
266	9	SURG	SKIN GRAFT &/OR DEBRID EXCEPT FOR SKIN ULCER OR CELLULITIS W/O	0.6867	0.6682	-2.7
267	9	SURG	PERIANAL & PILONIDAL PROCEDURES	0.5738	0.6003	4.6
268	9	SURG	SKIN, SUBCUTANEOUS TISSUE & BREAST PLASTIC PROCEDURES	0.6431	0.7210	12.1
269	9	SURG	OTHER SKIN, SUBCUT TISS & BREAST PROC WITH CC	1.7287	1.7063	-1.3
270	9	SURG	OTHER SKIN, SUBCUT TISS & BREAST PROC W/O CC	0.6744	0.6709	-0.5
271	9	MED	SKIN ULCERS	1.1808	1.2568	6.4
272	9	MED	MAJOR SKIN DISORDERS WITH CC	1.0183	1.0177	-0.1
273	9	MED	MAJOR SKIN DISORDERS W/O CC	0.6811	0.6664	-2.2
274	9	MED	MALIGNANT BREAST DISORDERS WITH CC	1.0610	1.1101	4.6
275	9	MED	MALIGNANT BREAST DISORDERS W/O CC	0.5793	0.5443	-6.0
276	9	MED	NON-MALIGNANT BREAST DISORDERS	0.5602	0.5710	1.9
277	9	MED	CELLULITIS AGE > 17 WITH CC	0.9392	0.9269	-1.3
278	9	MED	CELLULITIS AGE > 17 W/O CC	0.6492	0.6278	-3.3
279	9	MED	CELLULITIS AGE 0-17	0.7278	0.7278	0.0
280	9	MED	TRAUMA TO THE SKIN, SUBCUT TISS & BREAST AGE > 17 WITH CC	0.6597	0.6538	-0.9
281	9	MED	TRAUMA TO THE SKIN SUBCUT TISS & BREAST AGE > 17 W/O CC	0.4233	0.4169	-1.5
282	9	MED	TRAUMA TO THE SKIN SUBCUT TISS & BREAST AGE 0-17	0.3383	0.3381	-0.1
283	9	MED	MINOR SKIN DISORDERS WITH CC	0.7624	0.7401	-2.9
284	9	MED	MINOR SKIN DISORDERS W/O CC	0.4659	0.4544	-2.5
285	10	SURG	AMPUTAT OF LOWER LIMB FOR ENDOC, NUTRIT & METABOL DISORDERS	2.8191	2.7822	-1.3
286	10	SURG	ADRENAL & PITUITARY PROCEDURES	2.5261	2.4946	-1.2
287	10	SURG	SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METABOL DISORDERS	2.2372	2.2311	-0.3
288	10	SURG	O.R. PROCEDURES FOR OBESITY	1.8656	1.9691	5.5

Appendix D. Change in DRG Relative Weights from Fiscal Year 1990 to Fiscal Year 1991

DRG	MDC	TYPE	TITLE	FY 1990 WEIGHT	FY 1991 WEIGHT	PERCENT CHANGE
289	10	SURG	PARATHYROID PROCEDURES	1.0587	0.9954	-6.0
290	10	SURG	THYROID PROCEDURES	0.7805	0.7394	-5.3
291	10	SURG	THYROID GLAND PROCEDURES	0.4589	0.4882	6.4
292	10	SURG	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC WITH CC	2.7779	2.8203	1.5
293	10	SURG	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC W/O CC	1.1289	1.0686	-5.3
294	10	MED	DIABETES AGE > 35	0.7509	0.7533	0.3
295	10	MED	DIABETES AGE 0-35	0.7252	0.7433	2.5
296	10	MED	NUTRITIONAL & MISC METABOLIC DISORDERS AGE > 17 WITH CC	0.9404	0.9387	-0.2
297	10	MED	NUTRITIONAL & MISC METABOLIC DISORDERS AGE > 17 W/O CC	0.5480	0.5361	-2.2
298	10	MED	NUTRITIONAL & MISC METABOLIC DISORDERS AGE 0-17	0.6768	0.5694	-15.9
299	10	MED	INBORN ERRORS OF METABOLISM	0.8623	0.8009	-7.1
300	10	MED	ENDOCRINE DISORDERS WITH CC	1.1086	1.1216	1.2
301	10	MED	ENDOCRINE DISORDERS W/O CC	0.6250	0.6187	-1.0
302	11	SURG	KIDNEY TRANSPLANT	3.7905	3.9581	4.4
303	11	SURG	KIDNEY, URETER & MAJOR BLADDER PROCEDURES FOR NEOPLASM	2.6773	2.6416	-1.3
304	11	SURG	KIDNEY, URETER & MAJOR BLADDER PROC FOR NON-NEOPL WITH CC	2.4944	2.4192	-3.0
305	11	SURG	KIDNEY, URETER & MAJOR BLADDER PROC FOR NON-NEOPL W/O CC	1.2807	1.2168	-5.0
306	11	SURG	PROSTATECTOMY WITH CC	1.4060	1.3240	-5.8
307	11	SURG	PROSTATECTOMY W/O CC	0.7931	0.7334	-7.5
308	11	SURG	MINOR BLADDER PROCEDURES WITH CC	1.5067	1.4736	-2.2
309	11	SURG	MINOR BLADDER PROCEDURES W/O CC	0.7882	0.7815	-0.9
310	11	SURG	TRANSURETHRAL PROCEDURES WITH CC	0.9014	0.8741	-3.0
311	11	SURG	TRANSURETHRAL PROCEDURES W/O CC	0.5211	0.5178	-0.6
312	11	SURG	URETHRAL PROCEDURES, AGE > 17 WITH CC	0.8071	0.7898	-2.1
313	11	SURG	URETHRAL PROCEDURES, AGE > 17 W/O CC	0.4757	0.4769	0.3
314	11	SURG	URETHRAL PROCEDURES, AGE 0-17	0.4271	0.4271	0.0
315	11	SURG	OTHER KIDNEY & URINARY TRACT O.R. PROCEDURES	2.3366	2.1922	-6.2
316	11	MED	RENAL FAILURE	1.2688	1.2684	0.0
317	11	MED	ADMIT FOR RENAL DIALYSIS	0.3814	0.3499	-8.3
318	11	MED	KIDNEY & URINARY TRACT NEOPLASMS WITH CC	1.0637	1.0885	2.3
319	11	MED	KIDNEY & URINARY TRACT NEOPLASMS W/O CC	0.5453	0.5586	2.4
320	11	MED	KIDNEY & URINARY TRACT INFECTIONS AGE > 17 WITH CC	1.0261	1.0055	-2.0

Appendix D. Change in DRG Relative Weights from Fiscal Year 1990 to Fiscal Year 1991

DRG	MDC	TYPE	TITLE	FY 1990 WEIGHT	FY 1991 WEIGHT	PERCENT CHANGE
321	11	MED	KIDNEY & URINARY TRACT INFECTIONS AGE >17 W/O CC	0.6830	0.6507	-4.7
322	11	MED	KIDNEY & URINARY TRACT INFECTIONS AGE 0-17	0.7006	0.6387	-8.8
323	11	MED	URINARY STONES WITH CC &/OR ESW LITHOTRIPSY	0.7726	0.7510	-2.8
324	11	MED	URINARY STONE W/O CC	0.3964	0.3932	-0.8
325	11	MED	KIDNEY & URINARY TRACT SIGNS & SYMPTOMS AGE >17 WITH CC	0.6673	0.6666	-0.1
326	11	MED	KIDNEY & URINARY TRACT SIGNS & SYMPTOMS AGE >17 W/O CC	0.4276	0.4286	0.2
327	11	MED	KIDNEY & URINARY TRACT SIGNS & SYMPTOMS AGE 0-17	0.5444	0.5444	0.0
328	11	MED	URETHRAL STRICTURE AGE >17 WITH CC	0.6445	0.6346	-1.5
329	11	MED	URETHRAL STRICTURE AGE >17 W/O CC	0.4020	0.4168	3.7
330	11	MED	URETHRAL STRICTURE AGE 0-17	0.2754	0.2754	0.0
331	11	MED	OTHER KIDNEY & URINARY TRACT DIAGNOSES AGE >17 WITH CC	0.9501	0.9493	-0.1
332	11	MED	OTHER KIDNEY & URINARY TRACT DIAGNOSES AGE >17 W/O CC	0.5557	0.5447	-2.0
333	11	MED	OTHER KIDNEY & URINARY TRACT DIAGNOSES AGE 0-17	0.8884	1.0415	17.2
334	12	SURG	MAJOR MALE PELVIC PROCEDURES WITH CC	1.8224	1.7911	-1.7
335	12	SURG	MAJOR MALE PELVIC PROCEDURES W/O CC	1.3462	1.3375	-0.6
336	12	SURG	TRANSURETHRAL PROSTATECTOMY WITH CC	0.9827	0.9326	-5.1
337	12	SURG	TRANSURETHRAL PROSTATECTOMY W/O CC	0.6603	0.6329	-4.1
338	12	SURG	TESTES PROCEDURES, FOR MALIGNANCY	0.7604	0.7662	0.8
339	12	SURG	TESTES PROCEDURES, NON-MALIGNANCY AGE >17	0.5847	0.5880	0.6
340	12	SURG	TESTES PROCEDURES, NON-MALIGNANCY AGE 0-17	0.4283	0.4283	0.0
341	12	SURG	PENIS PROCEDURES	0.9851	0.9850	0.0
342	12	SURG	CIRCUMCISION AGE >17	0.4806	0.4971	3.4
343	12	SURG	CIRCUMCISION AGE 0-17	0.3742	0.3742	0.0
344	12	SURG	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROCEDURES FOR MALIGNANCY	1.0569	1.0811	2.3
345	12	SURG	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC EXCEPT FOR MALIGNANCY	0.7877	0.7450	-5.4
346	12	MED	MALIGNANCY, MALE REPRODUCTIVE SYSTEM WITH CC	0.9214	0.9561	3.8
347	12	MED	MALIGNANCY, MALE REPRODUCTIVE SYSTEM W/O CC	0.4664	0.4852	4.0
348	12	MED	BENIGN PROSTATIC HYPERTROPHY WITH CC	0.6635	0.6835	3.0
349	12	MED	BENIGN PROSTATIC HYPERTROPHY W/O CC	0.3828	0.3847	0.5
350	12	MED	INFLAMMATION OF THE MALE REPRODUCTIVE SYSTEM	0.6716	0.6657	-0.9
351	12	MED	STERILIZATION, MALE	0.3293	0.3293	0.0
352	12	MED	OTHER MALE REPRODUCTIVE SYSTEM DIAGNOSES	0.5500	0.5158	-6.2

Appendix D. Change in DRG Relative Weights from Fiscal Year 1990 to Fiscal Year 1991

DRG	MDC	TYPE	TITLE	FY 1990 WEIGHT	FY 1991 WEIGHT	PERCENT CHANGE
353	13	SURG	PELVIC EVISCERATION, RADICAL HYSTERECTOMY & RADICAL VULVECTOMY	2.0645	2.1148	2.4
354	13	SURG	UTERINE, ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG WITH CC	1.4248	1.3937	-2.2
355	13	SURG	UTERINE, ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG W/O CC	0.8943	0.8676	-3.0
356	13	SURG	FEMALE REPRODUCTIVE SYSTEM RECONSTRUCTIVE PROCEDURES	0.7291	0.7139	-2.1
357	13	SURG	UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIG	2.1705	2.2286	2.7
358	13	SURG	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY WITH CC	1.2032	1.1515	-4.3
359	13	SURG	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY W/O CC	0.8132	0.7887	-3.0
360	13	SURG	VAGINA, CERVIX & VULVA PROCEDURES	0.7760	0.7643	-1.5
361	13	SURG	LAPAROSCOPY & INCISIONAL TUBAL INTERRUPTION	0.6859	0.8125	18.5
362	13	SURG	ENDOSCOPIC TUBAL INTERRUPTION	0.3490	0.4921	41.0
363	13	SURG	D&C, CONIZATION & RADIO-IMPLANT, FOR MALIGNANCY	0.6987	0.6421	-8.1
364	13	SURG	D&C, CONIZATION EXCEPT FOR MALIGNANCY	0.4669	0.4876	4.4
365	13	SURG	OTHER FEMALE REPRODUCTIVE SYSTEM O.R. PROCEDURES	1.8928	1.7521	-7.4
366	13	MED	MALIGNANCY, FEMALE REPRODUCTIVE SYSTEM WITH CC	1.1726	1.1937	1.8
367	13	MED	MALIGNANCY, FEMALE REPRODUCTIVE SYSTEM W/O CC	0.4896	0.4791	-2.1
368	13	MED	INFECTIONS, FEMALE REPRODUCTIVE SYSTEM	0.8927	0.8639	-3.2
369	13	MED	MENSTRUAL & OTHER FEMALE REPRODUCTIVE SYSTEM DISORDERS	0.5109	0.5198	1.7
370	14	SURG	CESAREAN SECTION WITH CC	0.9848	0.9284	-5.7
371	14	SURG	CESAREAN SECTION W/O CC	0.6544	0.6277	-4.1
372	14	MED	VAGINAL DELIVERY W COMPLICATING DIAGNOSES	0.4540	0.4541	0.0
373	14	MED	VAGINAL DELIVERY W/O COMPLICATING DIAGNOSES	0.2987	0.2963	-0.8
374	14	SURG	VAGINAL DELIVERY W STERILIZATION &/OR D&C	0.4981	0.5204	4.5
375	14	SURG	VAGINAL DELIVERY W O.R. PROC EXCEPT STERIL &/OR D&C	0.6735	0.6735	0.0
376	14	MED	POSTPARTUM & POST ABORTION DIAGNOSES W/O O.R. PROCEDURE	0.3502	0.3646	4.1
377	14	SURG	POSTPARTUM & POST ABORTION DIAGNOSES W O.R. PROCEDURE	1.5119	0.6757	-55.3
378	14	MED	ECTOPIC PREGNANCY	0.7232	0.6686	-7.5
379	14	MED	THREATENED ABORTION	0.2493	0.2651	6.3
380	14	MED	ABORTION W/O D&C	0.2644	0.2943	11.3
381	14	MED	ABORTION W D&C, ASPIRATION CURETTAGE OR HYSTEROTOMY	0.3769	0.3727	-1.1
382	14	MED	FALSE LABOR	0.1186	0.1101	-7.2
383	14	MED	OTHER ANTEPARTUM DIAGNOSES W MEDICAL COMPLICATIONS	0.3759	0.3854	2.5
384	14	MED	OTHER ANTEPARTUM DIAGNOSES W/O MEDICAL COMPLICATIONS	0.3279	0.2833	-13.6

Appendix D. Change in DRG Relative Weights from Fiscal Year 1990 to Fiscal Year 1991

DRG	MDC	TYPE	TITLE	FY 1990 WEIGHT	FY 1991 WEIGHT	PERCENT CHANGE
385	15		NEONATES, DIED OR TRANSFERRED TO ANOTHER ACUTE CARE FACILITY	1.2084	1.2084	0.0
386	15		EXTREME IMMATUREITY OR RESPIRATORY DISTRESS SYNDROME, NEONATE	3.6039	3.6039	0.0
387	15		PREMATURITY W MAJOR PROBLEMS	1.8046	1.8046	0.0
388	15		PREMATURITY W/O MAJOR PROBLEMS	1.1431	1.1431	0.0
389	15		FULL TERM NEONATE W MAJOR PROBLEMS	2.4098	1.4266	-40.8
390	15		NEONATE W OTHER SIGNIFICANT PROBLEMS	0.8111	1.0001	23.3
391	15		NORMAL NEWBORN	0.2191	0.2191	0.0
392	16	SURG	SPLENECTOMY AGE >17	3.5891	3.2611	-9.1
393	16	SURG	SPLENECTOMY AGE 0-17	1.5022	1.5022	0.0
394	16	SURG	OTHER O.R. PROCEDURES OF THE BLOOD AND BLOOD FORMING ORGANS	1.5355	1.5388	0.2
395	16	MED	RED BLOOD CELL DISORDERS AGE >17	0.7466	0.7471	0.1
396	16	MED	RED BLOOD CELL DISORDERS AGE 0-17	0.3575	0.3615	1.1
397	16	MED	COAGULATION DISORDERS	1.0955	1.1577	5.7
398	16	MED	RETICULOENDOTHELIAL & IMMUNITY DISORDERS WITH CC	1.2279	1.1795	-3.9
399	16	MED	RETICULOENDOTHELIAL & IMMUNITY DISORDERS W/O CC	0.6906	0.6576	-4.8
400	17	SURG	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROCEDURE	2.6981	2.7073	0.3
401	17	SURG	LYMPHOMA & NON-ACUTE LEUKEMIA W OTHER O.R. PROC WITH CC	2.2572	2.2071	-2.2
402	17	SURG	LYMPHOMA & NON-ACUTE LEUKEMIA W OTHER O.R. PROC W/O CC	0.8945	0.8877	-0.8
403	17	MED	LYMPHOMA & NON-ACUTE LEUKEMIA WITH CC	1.6044	1.6019	-0.2
404	17	MED	LYMPHOMA & NON-ACUTE LEUKEMIA W/O CC	0.7753	0.7474	-3.6
405	17	MED	ACUTE LEUKEMIA W/O MAJOR O.R. PROCEDURE AGE 0-17	1.0281	1.0281	0.0
406	17	SURG	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W MAJ O.R. PROC WITH CC	2.7445	2.6994	-1.6
407	17	SURG	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W MAJ O.R. PROC W/O CC	1.3042	1.2438	-4.6
408	17	SURG	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W OTHER O.R. PROC	0.9592	1.0511	9.6
409	17	MED	RADIO THERAPY	1.0357	1.0213	-1.4
410	17	MED	CHEMOTHERAPY	0.4890	0.5123	4.8
411	17	MED	HISTORY OF MALIGNANCY W/O ENDOSCOPY	0.4543	0.4320	-4.9
412	17	MED	HISTORY OF MALIGNANCY W ENDOSCOPY	0.4046	0.4072	0.6
413	17	MED	OTHER MYELOPROLIF DIS OR POORLY DIFF NEOPL DIAG WITH CC	1.2853	1.3073	1.7
414	17	MED	OTHER MYELOPROLIF DIS OR POORLY DIFF NEOPL DIAG W/O CC	0.7557	0.7062	-6.6
415	18	SURG	O.R. PROCEDURE FOR INFECTIOUS & PARASITIC DISEASES	3.6424	3.5957	-1.3
416	18	MED	SEPTICEMIA AGE >17	1.5346	1.5320	-0.2

Appendix D. Change in DRG Relative Weights from Fiscal Year 1990 to Fiscal Year 1991

DRG	MDC	TYPE	TITLE	FY 1990 WEIGHT	FY 1991 WEIGHT	PERCENT CHANGE
417	18	MED	SEPTICEMIA AGE 0-17	0.8929	1.0768	20.6
418	18	MED	POSTOPERATIVE & POST-TRAUMATIC INFECTIONS	0.9641	0.9816	1.8
419	18	MED	FEVER OF UNKNOWN ORIGIN AGE > 17 WITH CC	0.9552	0.9515	-0.4
420	18	MED	FEVER OF UNKNOWN ORIGIN AGE > 17 W/O CC	0.6805	0.6612	-2.8
421	18	MED	VIRAL ILLNESS AGE > 17	0.6337	0.6517	2.8
422	18	MED	VIRAL ILLNESS & FEVER OF UNKNOWN ORIGIN AGE 0-17	0.5874	0.7604	29.5
423	18	MED	OTHER INFECTIOUS & PARASITIC DISEASES DIAGNOSES	1.5845	1.5928	0.5
424	19	SURG	O.R. PROCEDURE W PRINCIPAL DIAGNOSES OF MENTAL ILLNESS	2.3418	2.3652	1.0
425	19	MED	ACUTE ADJUST REACT & DISTURBANCES OF PSYCHOSOCIAL DYSFUNCTION	0.6470	0.6890	6.5
426	19	MED	DEPRESSIVE NEUROSES	0.6255	0.6290	0.6
427	19	MED	NEUROSES EXCEPT DEPRESSIVE	0.6133	0.6428	4.8
428	19	MED	DISORDERS OF PERSONALITY & IMPULSE CONTROL	0.7325	0.7065	-3.5
429	19	MED	ORGANIC DISTURBANCES & MENTAL RETARDATION	0.9016	0.9216	2.2
430	19	MED	PSYCHOSES	0.8957	0.9026	0.8
431	19	MED	CHILDHOOD MENTAL DISORDERS	0.6347	0.6422	1.2
432	19	MED	OTHER MENTAL DISORDER DIAGNOSES	0.7329	0.7405	1.0
433	20		ALCOHOL/DRUG ABUSE OR DEPENDENCE, LEFT AMA	0.3974	0.3829	-3.6
434	20		ALC/DRUG ABUSE OR DEPENDENCE, DETOX OR OTHER SYMPT TRT WITH CC	0.7886	0.7649	-3.0
435	20		ALC/DRUG ABUSE OR DEPENDENCE, DETOX OR OTHER SYMPT TRT W/O CC	0.5510	0.5007	-9.1
436	20		ALC/DRUG DEPENDENCE W REHABILITATION THERAPY	0.9873	0.9979	1.1
437	20		ALC/DRUG DEPENDENCE, COMBINED REHAB & DETOX THERAPY	1.2005	1.1437	-4.7
438	20		NO LONGER VALID	NV	NV	NV
439	21	SURG	SKIN GRAFTS FOR INJURIES	1.6731	1.6689	-0.3
440	21	SURG	WOUND DEBRIDEMENTS FOR INJURIES	2.4992	2.5374	1.5
441	21	SURG	HAND PROCEDURES FOR INJURIES	0.7381	0.7189	-2.6
442	21	SURG	OTHER O.R. PROCEDURES FOR INJURIES WITH CC	1.8642	1.8473	-0.9
443	21	SURG	OTHER O.R. PROCEDURES FOR INJURIES W/O CC	1.1906	1.1467	-3.7
444	21	MED	TRAUMATIC INJURY AGE > 17 WITH CC	0.7594	0.7621	0.4
445	21	MED	TRAUMATIC INJURY AGE > 17 W/O CC	0.4950	0.4906	-0.9
446	21	MED	TRAUMATIC INJURY AGE 0-17	0.4738	0.4738	0.0
447	21	MED	ALLERGIC REACTIONS AGE > 17	0.4702	0.4822	2.6
448	21	MED	ALLERGIC REACTIONS AGE 0-17	0.3428	0.3428	0.0

Appendix D. Change in DRG Relative Weights from Fiscal Year 1990 to Fiscal Year 1991

DRG	MDC	TYPE	TITLE	FY 1990 WEIGHT	FY 1991 WEIGHT	PERCENT CHANGE
449	21	MED	POISONING & TOXIC EFFECTS OF DRUGS AGE > 17 WITH CC	0.7983	0.7904	-1.0
450	21	MED	POISONING & TOXIC EFFECTS OF DRUGS AGE > 17 W/O CC	0.4648	0.4485	-3.5
451	21	MED	POISONING & TOXIC EFFECTS OF DRUGS AGE 0-17	0.3947	0.5126	29.9
452	21	MED	COMPLICATIONS OF TREATMENT WITH CC	0.8932	0.9317	4.3
453	21	MED	COMPLICATIONS OF TREATMENT W/O CC	0.4725	0.4775	1.1
454	21	MED	OTHER INJURY, POISONING & TOXIC EFF DIAG WITH CC	0.9104	0.9488	4.2
455	21	MED	OTHER INJURY, POISONING & TOXIC EFF DIAG W/O CC	0.4226	0.4282	1.3
456	22		BURNS, TRANSFERRED TO ANOTHER ACUTE CARE FACILITY	3.1114	1.5138	-51.3
457	22	MED	EXTENSIVE BURNS W/O O.R. PROCEDURE	1.8725	2.1317	13.8
458	22	SURG	NON-EXTENSIVE BURNS W SKIN GRAFT	3.8130	3.7539	-1.5
459	22	SURG	NON-EXTENSIVE BURNS W WOUND DEBRIDEMENT OR OTHER O.R. PROC	1.9164	2.0711	8.1
460	22	MED	NON-EXTENSIVE BURNS W/O O.R. PROCEDURE	1.0165	1.0607	4.3
461	23	SURG	O.R. PROC W DIAGNOSES OF OTHER CONTACT W HEALTH SERVICES	0.7762	0.7771	0.1
462	23	MED	REHABILITATION	1.9047	1.8435	-3.2
463	23	MED	SIGNS & SYMPTOMS WITH CC	0.7540	0.7462	-1.0
464	23	MED	SIGNS & SYMPTOMS W/O CC	0.4719	0.4700	-0.4
465	23	MED	AFTERCARE W HISTORY OF MALIGNANCY AS SECONDARY DIAGNOSIS	0.3282	0.3995	21.7
466	23	MED	AFTERCARE W/O HISTORY OF MALIGNANCY AS SECONDARY DIAGNOSIS	0.5463	0.5749	5.2
467	23	MED	OTHER FACTORS INFLUENCING HEALTH STATUS	0.4339	0.4226	-2.6
468		SURG	EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS	3.3150	3.4146	3.0
469			PRINCIPAL DIAGNOSIS INVALID AS DISCHARGE DIAGNOSIS	NV	NV	NV
470			UNGROUPABLE	NV	NV	NV
471	8	SURG	BILATERAL OR MULTIPLE MAJOR JOINT PROCS OF LOWER EXTREMITY	3.9672	3.9492	-0.5
472	22	SURG	EXTENSIVE BURNS W O.R. PROCEDURE	12.7129	11.7637	-7.5
473	17		ACUTE LEUKEMIA W/O MAJOR O.R. PROCEDURE AGE > 17	3.0963	3.2953	6.4
474	4		NO LONGER VALID	13.4688	NV	NV
475	4	MED	RESPIRATORY SYSTEM DIAGNOSIS WITH VENTILATOR SUPPORT	3.6290	3.5492	-2.2
476		SURG	PROSTATIC O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS	2.2425	2.1816	-2.7
477		SURG	NON-EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS	1.4318	1.4395	0.5
478	5	SURG	OTHER VASCULAR PROCEDURES W CC	NC	2.4189	NC
479	5	SURG	OTHER VASCULAR PROCEDURES W/O CC	NC	1.3208	NC
480		SURG	LIVER TRANSPLANT	NC	15.2645	NC

Appendix D. Change in DRG Relative Weights from Fiscal Year 1990 to Fiscal Year 1991

DRG	MDC	TYPE	TITLE	FY 1990 WEIGHT	FY 1991 WEIGHT	PERCENT CHANGE
481		SURG	BONE MARROW TRANSPLANT	NC	12.4485	NC
482		SURG	TRACHEOSTOMY W MOUTH, LARYNX OR PHARYNX DISORDER	NC	3.2660	NC
483		SURG	TRACHEOSTOMY EXCEPT FOR MOUTH, LARYNX OR PHARYNX DISORDER	NC	14.0597	NC
484	24	SURG	CRANIOTOMY FOR MULTIPLE SIGNIFICANT TRAUMA	NC	6.9972	NC
485	24	SURG	LIMB REATTACH., HIP AND FEMUR PROCS FOR MULTI SIGN TRAUMA	NC	3.2621	NC
486	24	SURG	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA	NC	4.9603	NC
487	24	MED	OTHER MULTIPLE SIGNIFICANT TRAUMA	NC	1.8324	NC
488	25	SURG	HIV W EXTENSIVE O.R. PROCEDURE	NC	4.1296	NC
489	25	MED	HIV W MAJOR RELATED CONDITION	NC	2.0674	NC
490	25	MED	HIV W OR W/O OTHER RELATED CONDITION	NC	1.1808	NC

• DRG definition substantially revised for discharges occurring on or after October 1, 1990.
NC Denotes a new DRG category defined for discharges occurring on or after October 1, 1990.
NV Denotes a DRG category that is not valid for classification and payment under PPS.



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